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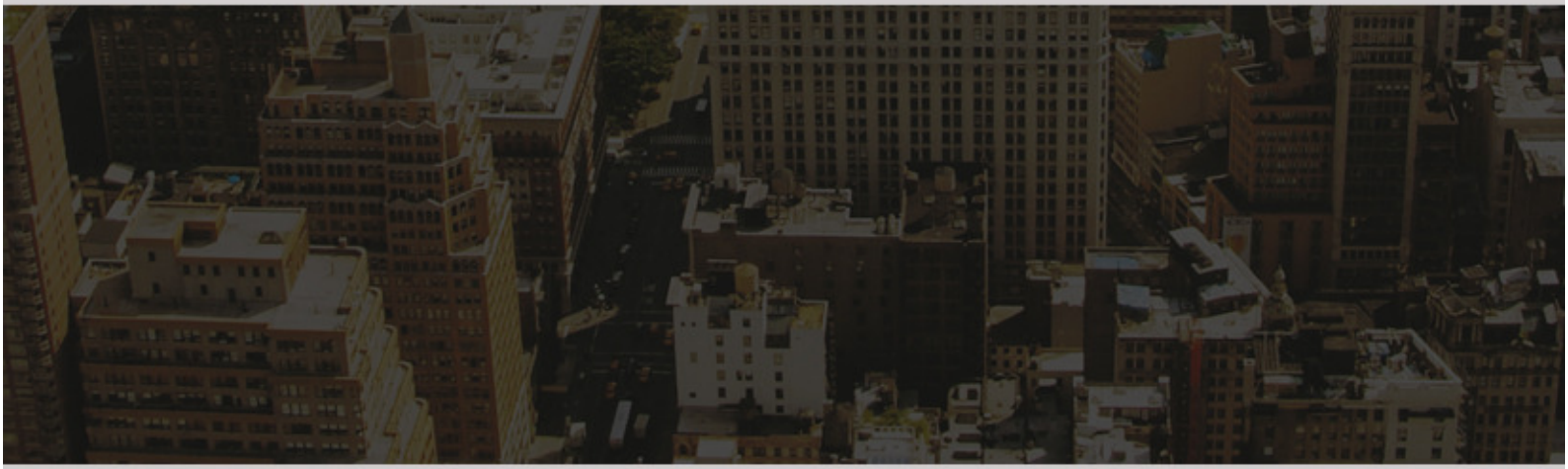

Cities, Communities and Homes: Is the Urban Future Livable?

AMPS CONFERENCE 10

Cities, Communities and Homes: Is the Urban Future Livable?

AMPS, Architecture_MPS; University of Derby
22—23 June, 2017

Cities, Communities and Homes: Is the Urban Future Livable?

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INTRODUCTION

This publication is the product of the conference *Cities, Communities and Homes: Is the Urban Future Livable?* held at the University of Derby in 2018. The premise of the conference and this publication is that the forces shaping life in cities are complex. The economies they are based on are multiple. Some are growing exponentially, others are shrinking. Some pride themselves on architectural heritage, others are seeking to build and rebrand. Some are old, some are new. Inevitably their urban fabrics vary. The communities that live in these places reflect these conditions. Some are long-standing, others are new and in-formation. Sometimes they are active, on occasion homogenous. More generally they are diverse. These communities need, and want, a say in their futures. Some are well connect and affluent, others suffer deprivation and social exclusion. A constant in the mist of this complexity is their need to be housed – whether by themselves, the market, or governments.

The conference and this subsequent publication seek to explore how the three issues of city development, sense of community and housing need, all combine to make lives in our cities livable – or not. How will our urban environments change in the near future? Are the cities we live in now likely to contract or expand? How will these changes impact on communities and the way they are housed? Will new technologies facilitate community engagement with planning? Will resident voices be heard by planners? Will unaffordable housing turn some cities into enclaves of the wealthy, or will the private sector and personal preference gate our communities?

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This publication, and the conference which it documents, were organised by the research organisation AMPS, its academic journal Architecture_MPS, and the College of Engineering & Technology at the University of Derby. It formed part of the AMPS program of events, *Housing – Critical Futures*.

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INDEX

REVITALISING URBAN TISSUE AND COMMUNITIES THROUGH BIOPHILIC PARTICIPATORY DESIGN: NORMANTON PEARTREE AREA, DERBY, UK

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INTRODUCTION

Today the greatest goal for any city worldwide is to become livable. The concept of *livability* not only covers the urban design, but also the structure of elements which could be influential to the city growth and its financial prosperity. According to the dictionary, *livable* means:

1. Worth living; enjoyable.

1.1 (of an environment or climate) Fit to live in.[1]

A livable city encourages people to participate actively to its development. Hence, in general a livable city is also a sustainable one. We consider a livable city as the city of the future. We find out that such a city contains a few identifiable neighbourhoods with each one of them having its own character. As a matter of fact, a livable neighbourhood is compact, sustainable, diverse, green, healthy and accessible. The most important dynamic of a livable city is the community. When making a city, we always consider community needs and necessities, and also potential hazards. Thus, a livable city is more often a resilient city as well. However new approaches to city form in urban design are often limited to preserve its existent urban morphology or *'urban tissue'* without any radical transformation of it.[2] However, there is often lack of citizens' energetic participation during proposed changes. We often distinguish newest urban tissue or growth of cities from their purely geometrical extension of the roads, containing unstoppable car traffic and less pedestrian path lines or dangerous bicycle routes with no protection from speeding vehicles. Many theorists believe that urban morphology or the study of change in the physical form and shape of human settlements focuses mainly on pre-determined regular (man-made *'ideal grids'*) or irregular (*'deformed grids'*- based on pedestrian movement and influenced by topography) patterns.[3]

However some urban designers – mainly academics – define urban design as *"the processes of making better places for people than would otherwise be produced."*[4] However, since 2011 the author of this paper has been involved in research with other members of the International Society of Biourbanism, thus, professes ideas of design of cities which are rigorously supporting well-being of citizens and public health in general. Being based on theories and practices of professionals who believe that "A city is not a tree,"[5] the author has reinforced her research with live projects and case studies in which, her students at all levels develop concepts to support growth of local vulnerable communities, such the area described further. She believes that cities are similar to live organisms which grow in a natural way, thus, complexity is a dominant element in her teaching and practical applications of complexity theories,[6] and models based upon harmonious Fractal Growth, and also Constructal Law of Physics.[7] The author affirms that:

> Urban space is often related to information theory, as its use is in agreement with information context, which initiates from surfaces rising from the ground; this information can be perceived as logic signal and also be accepted by human beings, navigating through it, by means of pedestrian and often preferential pathlines (urban navigation indicators). Successful spaces should offer perceptible hints from local structural emergences; standing and seating signals, for example, may determine the most advantageous pedestrian paths and nodal points associated with them. Hence, human life in cities emerges during connectivity via geometrical continuity of grids and fractals, via path connectivity among highly active nodes, via exchange/movement of people and, finally via exchange of information (networks).[8]

ARCHITECTURAL DESIGN EDUCATION AT THE COLLEGE OF ENGINEERING AND TECHNOLOGY AT THE UNIVERSITY OF DERBY, UK

The University of Derby is a modern UK university located in the East Midlands, England and is rated Gold in the Teaching Excellence Framework (TEF). In the official web pages of the University of Derby we find that there is a close relationship between Derby City and the University for many years:

> Is laid back living your thing, or are you an adrenaline junkie always seeking adventure? Are you a culture lover looking to learn new things or do you live for the night? Do your friends see you as a sports fanatic, or are you a frequent gig goer obsessed with music? Whichever of these you identify with, Derby is the place where you can follow your interests as well as explore new passions, all while studying for a top quality degree.[9]

The University of Derby consists of three campuses in Derby, Buxton and Chesterfield; an exciting range of courses at the University of Derby offer to students full-time, part-time or online study. You can explore our campuses and the City via our *'virtual campus'*.[10] The University offers a vast range of foundation, undergraduate, postgraduate or research courses through a choice of subjects in its Colleges: College of Arts, Humanities and Education, College of Business, Law and Social Sciences, College of Engineering and Technology, College of Health and Social Care, College of Life and Natural Sciences, and Hotel, Resort and Spa Management in Buxton. In our College of Engineering and Technology the aspirations are high:

> Our aim is to inspire and empower students to do well in their studies. We provide an innovative teaching curriculum with a balanced programme of scientific theory and vocational skills. Our academics are recognised, practicing experts in their areas and are actively contributing to advances in their fields through their research.[11]

Our architectural design programmes belong to the Department of Mechanical Engineering and the Built Environment. Our programmes include: Architectural Studies FdSc, Architectural Technology and Practice BSc (Hons), Architectural Design Joint Honours, Interior Architecture and Venue Design BA (Hons).

The module about which we refer to in this paper is Project Research and Urban Design at Level 6 of BA (Hons) Interior Architecture and Venue Design, which is accredited by the Chartered Society of Designers. Our students gain valuable experience on industry placements, like Sara Butkiewicz, for example, who went to Los Angeles for hers, and she worked in Beverly Hills and Bel Air. Sara's project for this module experience (in Project Research and Urban Design) has been included in this paper as Case Study 1 (See further below). We've got a fantastic employment record with many graduates finding jobs both abroad and in the UK - such as with national or local architectural and interior design practices or local authorities. The course is presented to perspective students as follows:

> During this course you'll be constantly challenged to conceptualise, investigate and develop the design of three dimensional spaces, understanding the ways that architectural and interior design histories and theories and the existing physical and cultural context can inform design processes, programmes and proposals. You'll be encouraged to develop an ethos of producing socially,

> culturally and environmentally responsive design proposals, drawing upon the best practice and expertise within the Department.

> The course covers a wide range of venue designs that offer exciting areas of study, ranging from interior architectural design of bars, restaurants and multipurpose venue spaces to the design of hotels, resorts and residential developments. You'll look at planning and design of live performance spaces, social and community places, exhibition spaces, galleries, brand retail and museums to name a few.[12]

DERBY BECOMING A CITY

Derby has got a very long history, developing from a small Roman fort to an engineering and manufacturing giant.[13] The Romans established their first fort at about 2,000 years ago; they named their settlement *Derventium.* The Vikings, later settlers named it *Djúra-bý*, 'Village of the Deer'. During the Saxon period and after the Vikings, Derby thrived becoming important for trade and craft with both a mint and a market.[14] Its population grew steadily during the medieval period, with a prominent wool and leather industry alongside an array of other craftsmen. Derby's central location and accessibility via road and river were vital to its further growth. Later new industries appeared, including cloth making, brewing and clock making. Derby grew rapidly in the industrial era with the opening of the world's first water powered Silk Mill in 1717 by John Lombe and George Sorocold.

Derby's engineering heritage begins during the nineteenth century with the North Midland Railway establishing itself in the heart of the town in 1840. We find that:

> Following several mergers, the newly-formed Midland Railway was headquartered in Derby four years later, placing it at the centre of the British rail industry. The Midland Railway measured their railway empire from Derby and mileposts across the network record the distance from Derby station. The first of these can still be seen at the end of Derby station main platform and is marked D 0, meaning 0 miles from Derby.[15]

Derby still remains a major rail manufacturing, design and development centre to this day. In 1907, Rolls-Royce opened a car and aircraft factory in Derby, invigorating Derby further. The town was awarded city status in 1977 by Queen Elizabeth II.

DERBY AND ITS SUBURBS - THE NORMANTON PEARTREE MULTIFACETED SUBURBAN AREA SEEKING ITS OWN IDENTITY WITHIN THE INNER CITY

From January 2016, the author was invited and started attending meetings of a partnership action group, chaired by Derby City Council and with the active participation of representatives from several council services and organisations such as Derby Homes, social services, private landlord associations, etc. Because of her expertise in planning and her experience as an educator, the author has contributed to initial discussions and ideas related to the regeneration of rundown neighbourhoods, tackling issues of poverty and social exclusion and discrimination in Normanton Peartree area (suburban area of the city of Derby). In that particular area, Derby City Council is currently planning a series of interventions focusing to problems of housing, training/education and employment of youths, and public health. The area is characterised by migrant movements and flows since several decades; most families have been living in dreadful conditions in housing mainly offered by private landlords. This had a negative result mainly towards the elderly and the very young who have been constantly disadvantaged. In most households, most members of a family do not even speak English and most of the youths have got limited education, because of continuous expulsions from schools. The youths can often speak and translate in English for the older members of their family, but it is likely that poverty draws them out of

education very early. Thus, they may be easily steered towards criminal actions starting from the petty ones and finishing with serious illegal activities often leading to imprisonment.

The collaboration with Derby Homes/Derby City Council originated after few meetings had taken place between Dr Graham Cairns (AMPS), the author/expert in New Urbanism and academic at the University of Derby and the Derby councillor for Urban Renewal (in autumn 2015). After those initial meetings the author was invited to participate in the discussions between AMPS and other professional organisations and publishers in London in a meeting taking place on Friday, 25th September 2015; this Partner-Coordination Meeting with the title *Housing Critical Futures* was organised at Design Council/Cabe Offices and aiming at arrangements and organisation of a series of conferences hosted by Universities internationally. The meeting also clarified points about how each University and/or City Council and other organisations could be cooperating in the events during that series of conferences. After that specific meeting in London, Dr Cairns and the author discussed and made a decision about the title of the conference: *Cities, Communities and Homes: Is the Urban Future Livable?* Dr Cairns and the author were to be the main co-organisers, representing AMPS and the University of Derby respectively for that conference. In the call for the conference at Derby, it was made clear that:

> The complexity of our cities is well documented. The economies they are based on are multiple. Some are growing exponentially, others are shrinking. Some pride themselves on architectural heritage, others are seeking to build and rebrand. Some are old, some are new. Inevitably their urban fabrics vary. The communities that live in these places reflect these conditions. Some are long-standing, others are new and in-formation. Sometimes they are active, on occasion homogenous. More generally they are diverse. These communities need, and want, a say in their futures. Some are well connect and affluent, others suffer deprivation and social exclusion. A constant in the mist of this complexity is their need to be housed – whether by themselves, the market, or governments. This conference seeks to explore how the three issues of city development, sense of community and housing need, all combine to make lives in our cities livable – or not.[16]

The author proposed a team to be formed by her and students in Year 3 who were to pursue studies in the Module Project Research and Urban Design in spring 2017; the students were presented with findings from the author's initial research (from January 2016 and until January 2017) and data provided by other members of the Normanton Peartree Action group. Further investigation, analysis of data and preparation of ideas and scheme projects for the regeneration of neighbourhoods in Normanton area took place until May 2017. All these ideas were presented to some members of the action group during a special presentation; additional feedback was given to students to be able to prepare an exhibition of their work for the Conference on 22-23 June 2017. The 'Cities, Communities and Homes: Is the Urban Future Livable?' Conference brought together scholars from New Zealand, Australia, the UK, Spain, the United States, Portugal and many more places across the world. They shared best practices on a range of related themes including housing design, urban planning, role of landscape design in creating healthy communities, community engagement in regeneration debates, environmental and social sustainability and more. And the most important thing was that all students had the opportunity to attend and get feedback from such a great community of scholars.

THE MODULE TITLE AND BRIEF

The assignment brief title presented to students for the module Project Research and Urban Design in spring 2017 was: "*Derby City Centre Urban Identity and links with suburban neighbourhoods under urban renewal."* The learning outcomes are:

> 1.Critically analyse aspects of theoretical and contextual research relevant to your project proposal and evidence it in your concept development.
>
> 2.Research, critically evaluate and select appropriate technologies, materials, media, techniques, methods, and tools in accordance with design proposal.

> 3.Produce a distinctive portfolio of work, which involves primary and secondary research material, demonstrating independent thought and engagement with innovation.

The individual assignment was mainly to follow the guidelines below:

> This part of the assignment requires students to research and evaluate current and future trends in innovative developments in urban design and use designs and technology of human scale oriented proposals, concepts and/or functional solutions. The end result of research and evaluation of findings could be a proposal of design. Your work would consider current literature and frameworks supporting collective wellbeing; you may also wish to evaluate the impact of emerging legislative and other frameworks, such as participative projects and their applications or current planning legislation. You should create individual design solutions for a specific environment by proposing and evaluating your solution inside a set of contemporary urban regeneration and new development context in terms of its sustainability; you should explore innovative approaches (and their likely outcomes). Your focus should be to enhance the urban value of all sites/areas offered by the brief by allowing the users and visitors to enjoy an attractive public space at all times.

Fourteen students presented their ideas and most of them exhibited their portfolios and boards during the conference. For this paper the author has selected four schemes/case studies, which also the panel thought that they had proposed useful and affordable solutions, and especially those which could offer the opportunity to Normanton Peartree area citizens to identify easily links between their local communities and Derby City Centre. The identity of the centre should be attractive to the people living in peripheries. Local communities in the suburbs should be the owners of their city's values and also active participants to any changes to landscapes and neighbourhoods. They should be ready to understand that communication between the core area and the suburbs should be kept uninterrupted at all times; people need to socialise and communicate during all their day-to-day activities. Seclusion means boundaries which always create and reinforce so many problems, including those of mental health and criminality at the top.

CASE STUDY 1: Is Derby City a livable city?

Sara Butkiewicz-Stępień explored ideas related to what makes a city livable by researching on recent developments in some European cities; she was particularly attracted by Copenhagen. At the very front of her work shown in her folder, Sara declares that this project has offered her the opportunity to discover new ideas for life. She affirms that *"the stimulation of our senses is the key to enjoy the world we live in and appreciate everything it has to offer. The design field is one of the most powerful tools to achieve it. Staying conscious as a designer is necessary to be able to create useful spaces that can make people happier."*

The student acknowledges that working on urban regeneration ideas for Derby has been a great journey; she says that she has tried to show to the people the beauty of this city and encourage them to enjoy what is in offer as well. She claims: *"I believe that Derby is a place with a great potential to become a livable city."* She thought that this should be a valued outcome for the entire Derby society, including all communities and people of all ages. The student wants to attain aim and objectives of the project, as they have been introduced in the module and assignment handbooks. She refers to one main issue raised by primary research carried out by the entire team (tutor and all students-participants): lack of connection between the city centre and its immediate suburbs.

Sara feels strong about this and she believes that it is also important for the following reasons:

- Connecting the suburbs to the city centre should make it easier for people living in the outskirts to commute and enjoy social and cultural life.

- Whereas connecting the city centre to the suburbs should give access to citizens to quiet green areas; it would be an opportunity to discover other surrounding areas of Derby, which finally could add value to its centre itself.
- Communities should be encouraged to take part in Derby social and culture life through nature, technology and/or leisure focused activities.
- Derby should be explored and enjoyed as a fully accessible and pleasant city.

Sara has explored the livability of Derby by focusing on and summarizing main statements which describe a livable city; a livable city should:

- Protect the history, neighbourhoods and the environment;
- Provide accessibility and connections of neighbourhoods;
- Appreciate local products and support and invest in people;
- Be affordable, proactive, and walkable and plan for the future.[17]

Evidently, Sara's thoughts were explained better in her proposal about uninterrupted bicycle routes which were supported by easy access to public transport and safe pedestrian areas. She was concerned about the quality of life of the citizens in modern times. Therefore, she considered the notion of livability in her discussion and final scheme proposed. Her research focus was on livable cities by exploring cities which were classified as the most livable cities of 2017 in Mercer's 19th annual *Quality of Living* ranking.[18] According to Mercer's survey, *"despite increased political and financial volatility in Europe, many of its cities offer the world's highest quality of living and remain attractive destinations for expanding business operations and sending expatriates on assignment*."[19] Ilya Bonic, senior partner and president of Mercer's Career business affirms that, *"in uncertain times, organisations that plan to establish themselves and send staff to a new location should ensure they get a complete picture of the city, including its viability as a business location and its attractiveness to key talent."*[20]

Obviously Sara is aware that Derby has already started marketing itself as a city aiming at high quality of life for its citizens in many occasions. Derby is the city of people who wish to prosper by working in manufacturing and investments sector; yet again people moving in the city may wish to populate suburban areas, which have been abandoned in years of economic crisis and shrinking of the industry. Thus, Derby should now strive to be nominated as a livable city. In Mercer's ranking, cities around the world are considered and challenged against multiple factors, such as the economic and political environment, infrastructure, public transportation, health, ecology, housing and leisure.

The top twenty livable cities in 2017 have put a lot of effort in the development of ecological living, connection of neighborhoods and happy living as a whole. Amongst these top twenty cities, in ninth place we find Copenhagen characterised as the one of the greatest food focused cities. However Sara was impressed and inspired by its urban planning and growth; she used it as her main case study and precedent for both Derby City Centre regeneration and connectivity proposal with bits suburban areas, such as Normanton. According to Sara, Copenhagen shows as active, colourful, creative and sustainable with its main focus in bicycle transportation via accessible and safe routes, therefore, encouraging people to a healthy lifestyle and commuting across the city in a fast, easy and enjoyable way.

People on bicycles, pedestrians and boat travellers have the opportunity to enjoy green spaces, heritage, local products, and innovation in architecture and planning in a relaxed way. The way in which this student saw Derby developing is almost identical to what Copenhagen has achieved; at first, bicycle routes should be re-defined and expanded in all directions. Green infrastructure, such as parks, for example, Markeaton Park or other green areas such as Shaftsbury area in Normanton or in areas along the Derwent riverside should be re-developed. Figure 1.

Figure 1 Exterior view of the Market Hall Square annex. Daylight and Artificial LED lighting at night. Courtesy: Sara Butkiewicz-Stępień

Sara has considered five areas in Derby: the green (Markeaton Park, contiguous to the University of Derby campuses), the fun (Derby City Centre), the quiet (Riverside), the technology and business (Pride Park), and the multicultural (Normanton). All these areas should be connected with revamped pedestrian and bicycle routes and linked to public transport as an integrated system of connectivity of all neighbourhoods. The identity of Derby as a healthy city should expand across its whole territory and would also welcome visitors, being encouraged in the same way as the locals to bring their own or rent a bicycle at Derby.

Sara believes that making people happier should not be limited to the regeneration of buildings of any kind in Derby; she affirms that being "healthy is [feeling] happy." Public health should be high up in the policymakers' agenda; nature should be introduced in all areas as healthy living. Thus, in her project proposals, not only nature entwines traditional with modern architecture in the city centre, but also makes a statement in the peripheries by reinventing spaces and places, such as Shaftsbury area in Normanton, for example.

This student has managed to add value to the Old Market Hall at the centre of Derby by designing an annex to that and reinventing the surrounding urban space. Here, the paths of citizens and visitors meet or cross either indoors or outdoors; the proposed interpretation of public space can easily attract people to enjoy the city; perhaps citizens are now convinced that this concept could easily expand in their suburban areas. Added value to real estate means getting people feeling happier and healthier in any part of a city and in any moment of their life. Figure 2.

Figure 2 Interior views of the Market Hall Square annex. Dining and seating areas. Courtesy: Sara Butkiewicz-Stępień

By referring to her project ideas for Derby City Centre and its transferable features of a livable city to the suburbs, Sara affirms that:

> The building concept proposed as my final bachelor's degree project is a result of detailed research, consisting of the precise study of the site itself, Derby city centre, architecture as well as the cultural, social and business aspects. The site is located between the back of the Quad and Market Hall. The idea behind the design of the building itself is the result of 'place-making' concept interpretation. What exactly does this mean? In architectural and urban design it is the respect to the existing surroundings, the ability of the building to 'blend in', but on the other hand to stand out without creating chaos.
>
> Place making is the ability to create an inviting space for its users that is both hybrid and liveable. The proposed building is a result of incorporating the above. The multi-purpose space consists of the winery, wine and deli store and an open plan restaurant and bar on the ground floor. The first floor of the building is an open space, used mostly for temporary art exhibitions, art shows or other public or private venues. The exterior of the building is the extension of the interior space. Thanks to the translucent walls, there is no strict division between the two areas. The greenery wrapping the steel structure and green walls create the image of harmony and cosiness, both inside and outside of the building.
>
> Although the design of the building extremely differs from the structures it is being surrounded with, it fits perfectly with them. Thanks to the translucency, greenery wrapping multiple linear components (almost like grape vines wrapping wooden poles), additional seating and multi-dimensionality, the building becomes a lively place, inviting to be discovered in a number of ways, indoors and outdoors.

CASE STUDY TWO: Does Derby City lack identity?

Will Bywater struggles a bit to find out evidence of a particular identity for Derby. He says that, as it looks, *"Derby lacks identity. The small county town with a city status has a clear issue with its identity. The city plays with several individual identities, such as Joseph Wright's hometown, its engineering and rail industries, and its relationship to the Peak District. However none of these sections of Derby's character resonate with the majority of the local population."*

Will has identified at least three points of interest in need of redevelopment in the city centre: the Assembly Rooms, Middleton House and the Market Hall. He has been mainly attracted by the Market Hall as well. Although currently this building is underused, Will has been fascinated by this building in such a way that he believes it has got *"the potential to bring surrounding communities into the town centre."* He also affirms that the Cathedral Quarter, which is close to the Market Hall, contains some of the most visually stimulating streets in the city centre. According to him, this would be a great area to develop Derby's character and identity: *"It should be used to help bring the communities of Derby together."* He also admires the Market Hall building: *"The Market Hall was once the gathering place of the public due to the trading held in that kind of space."*

Being inspired by the main lectures' content, Will read more on people's place attachment theory; he understood that place attachment is the emotional bond between person and place, which is the main concept in environmental psychology; he found out that there is a considerable amount of research dedicated to defining what makes a place *"meaningful"* enough for place attachment to occur. Since 1991, Schroeder notably discussed the difference between *"meaning"* and *"preference",* defining meaning as *"the thoughts, feelings, memories and interpretations evoked by a landscape"* and preference as *"the degree of liking for one landscape compared to another."*[21]

Thus, Will wishes to have communities participating to develop a quite radical idea inside the old Market Hall by proposing its transformation into *"a new and vibrant botanical garden"* with the involvement of the local community. Community members would be encouraged to assist in the design for the landscaping within the botanical gardens, be able to select plants throughout seasons, etc. Along the interiors of the building, some flexible space units could be used as coffee shops or pop up stores. The layout of the proposed Market Hall Botanical Gardens is developed by the meandering shape of the Derwent River, thus, linking the garden with the exterior natural landscape and the community according to the place attachment theory. Figures 3, 4 and 5.

Figure 3 Interior views of the Market Hall Botanical Garden. Proposed design.
Courtesy: Will Bywater.

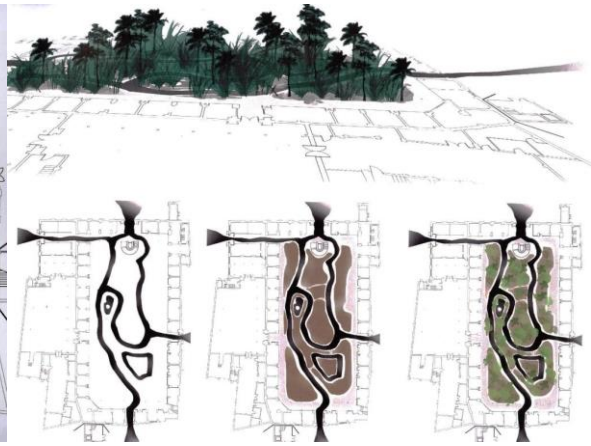

Figure 4 (left) Proposed layout.
Figure 5 (right) Meandering river-shape of the path.
Courtesy: Will Bywater.

Will proposes that the centre of Derby City should get trams re-introduced, by providing more links from the peripheries to the city centre itself. Since there have been advancements in technology since the previous city centre tramway, new transport solutions would be more a sustainable way of accessing the city centre than current transportation of the public by buses or private cars. This would be enhanced by creating more bicycle lanes: *"The introduction of these links to the city would fuse what currently a disconnected city is in relation to its surrounding suburbs and community hubs."*

Will found that the area between Derby City Centre and Normanton Peartree area consists of predominantly housing and retail centres located on heavy traffic roads. So, Will proposes more efficient tram public transport, so that cars could be avoided. Figures 6 and 7.

Figure 6 (Top) Proposed integrated green infrastructure and tram line (in yellow).
Figure 7 (Bottom) The tram line through Normanton.
Courtesy: Will Bywater.

Then, the concept of the communal garden expands within the residential area of Normanton, as the fragmentation of the back private gardens is eliminated in a very smart way; these spaces will now have the potential to *"bring local communities together in the sharing of whole area than just limited private spaces. This intervention alongside the place attachment theory should increase life quality and will help reduce negative social experiences."* Figures 8 and 9.

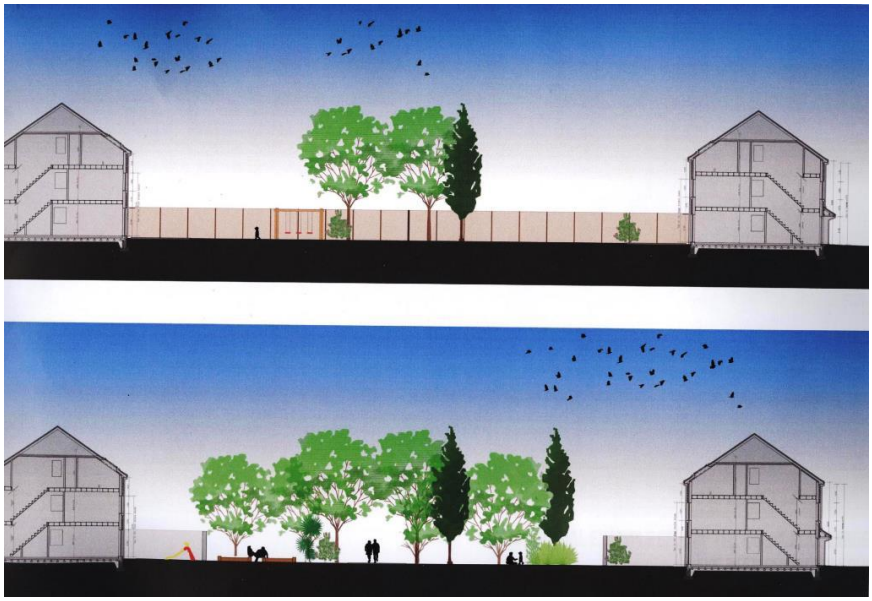

Figure 8 (Top) Enclosed private back gardens.
Figure 9 (Bottom) Proposed semi-private and communal gardens.
Courtesy: Will Bywater.

The proposal introduces more pedestrianised areas within the city centre as well as green infrastructure, which links the residential areas with the centre of the city. The proposed communal back gardens in between housing coincide with this green infrastructure; they are proposed as such space to improve local communities' well-being and combat crime and other negative issues. Figure 10.

Figure 10 Communal gardens self-maintained by the local community. Courtesy: Will Bywater.

CASE STUDIES THREE AND FOUR: Energising urban space by applying Biophilia

Elena Luca refers to the past of Derby as a vibrant town with its Market Place uniting the local communities on many special occasions; she has recognised the fact that nowadays this is no longer the

case: *"The Market Place has become a dull and unpopulated place, having the Intu Shopping centre become the main and sole destination point within Derby City centre."* However, Elena has faith to the Masterplan 2030, which focuses on the regeneration of Derby as a whole by considering all suburban areas to be re-connected with the city centre and bringing communities together once more. The aim is to transform Market Place and surrounding areas into dynamic and eventful places and spaces. Elena decided to focus on public movements and flows, enhancing of Biophilic properties and connectivity and add value to Heritage and other assets within Derby.

Elena proposes the creation of various social and interactive opportunities to be introduced within the Market Place area in order to attract not just the local people, but also visitors and, in this case, growth and prosperity would be sustained and secured. This student has been proactive to investigate on 'hidden' places such as back alleys and courtyards and get them back to the attention of both residents and passers-by. She showed sensitivity about safety and comfort of the users of abandoned and rundown areas, which exist either in the city centre or in the suburbs, such as Normanton.

This student found out that: *"Derby City possesses a wide variety of historic and full of character buildings which enhance the unique 'quirky' style it has been developing for years. Unfortunately, there are a lot of buildings and areas which have been to deteriorate. This aspect began creating hidden pockets which are now unpopulated; they attract anti-social behaviour and contribute towards the recent increase in crime rates."* Elena finds that Derby centre lacks of green infrastructure and relaxing areas, and especially the Market Place lacks of pleasant and attractive urban design, with no pleasant artificial lighting at nights or outdoors furniture for the people to rest and socialise eventually. She also finds that some areas have pedestrian routes, but often disturbed by noise from traffic. Figure 11.

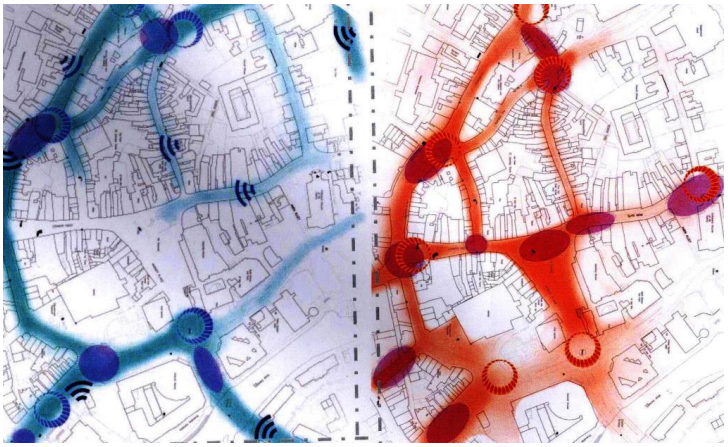

Figure 11 Noisy car traffic (on the left) and pedestrian routes (on the right). Courtesy: Elena Luca.

Elena's *'Vision'* is to promote Derby as *"inviting, interactive, illuminating, colourful, sustainable, exciting, green and connecting."* She is aware that Derby City centre has started becoming counter-urban in relation to current tendency of people to move out of cities towards the surrounding areas and secluded, exclusive suburbs in general. Urban areas are becoming increasingly unpleasant places to live. People are now working from home with the use of technology; new businesses appear at the edges of cities. People prefer to live on the outskirts of cities; they no longer have to travel to the city centre. At the moment the daily population within Derby centre is decreasing, while in the suburbs there is a steady increase.

This student explored more the fact of emergence of certain urban morphology named as *'pod'* developments; that is dense blocks of buildings with certain allocated spaces, such as parks and playgrounds. This is the case of buildings defining space rather than buildings in space. In a typical urban setting, the buildings tend to be built directly adjacent to one another, the walls of which act as limitations of the open space. With time, an urban transformation occurred, accommodating new forms of transport and pedestrian access; streets began expanding, introducing selective widening, waiting restrictions, one way roads, etc. for quicker and easier flow. This fact has affected the building patterns,

thus, creating more dense blocks of buildings, the so-called pod developments, which are also obvious in Derby City and suburbs maps.[22]

Having attended lectures on Biophilic Design and Biourbanism, Elena was further attracted by the principles and practices of them, the main aim of which is to respect the mind-body systems as indicators of health and well-being. *"Above all, Biophilic design must nurture a love of place."* [23] Elena affirms that environmental generational amnesia could be also a serious issue affecting people living in urban areas which have no or very limited memories of the real natural environment. Thus, Biophilic design is a way of helping the community reconnect with the natural system and reinforce the importance of environmental quality. Elena affirms that: *"Biophilic design follows specific patterns, with each pattern being defined by designers; then, it is considered how this pattern may affect the way a space feels, explaining the human biology in connection to the built environment which then will present different opportunities towards new Biophilic design strategies."* She looked at international precedents of tactical and ephemeral installations, such Melbourne Pavilion, an artificial forest installation for events in open space or other public space community involvements, such as the Backyard Experiment (Australia).

Elena also feels that, similar interventions/tactical/guerrilla urban designs including fun furniture and popular art could also transform Derby by transforming hidden alleyways and abandoned piazzas into safe, inviting and exciting places. Being directly involved, the local community would enjoy team fun and colourful atmosphere. The student proposes fun furniture designs in Derby piazzas, outdoors easy-to-use equipment and pop-up structures around the Market Place to be used regularly in order to shelter various activities, from DIY workshops to playground and even space for public lectures and live bands. Figures 12 and 13.

Figure 12 (Left) Proposed solution for empty internal courtyards.
Figure 13 (Right) Ephemeral pop-up construction example.
Courtesy: Elena Luca.

She also feels that artificial lighting, as an illuminating forest, could create attractive compositions and safe trails all around dark and currently unsafe areas. On special nights, these lighting trees, especially in Normanton, could change colour and intensity to grab more attention and add fun. Figure 14.

Figure 14 Illumination trail across the city and the suburbs.
Courtesy: Elena Luca.

Finally Patricia Nimo proposed ideas *"to instil a sense of pride within the community through a grass roots action plan of colour and play…a people-sensitive approach will be taken to address the needs of those in some particular area. Public spaces can change perceptions and encourage unity in areas that seem to be rundown."* Patricia affirms that: *"by collaborating with artists, designers, specialists, experts and the general public, this scheme aims to tackle the problems that underdeveloped areas create, such as crime and vandalism, threats to safety and lack of pride. Using public realm interventions of art, sculpture, colour and play, the overall aim is to encourage people to engage with the built and unbuilt environment in which they live."* Figures 15 and 16.

Figure 15 (Left) Revitalising pedestrian routes-'The Heart Of Derby'
Figure 16 (Right) Low-cost playful tactical installations.
Courtesy: Patricia Nimo.

Patricia has explored ideas through sketches and colour. She proposes urban design tactics of low cost and sustainable in any given context. She says that *"urban design has the potential and the ability to change people's perceptions, to give life back, to improve the aesthetic quality of a space and place with minimal cost implications."* Her proposal for the centre of Derby should be mirrored in similar interventions at Normanton; people will start populating all streets again, not only big shopping centres. By encouraging community participation in the centre of the city, she believes that people from the suburbs will be able to appreciate the history, the past and a playful present. Figures 17 and 18.

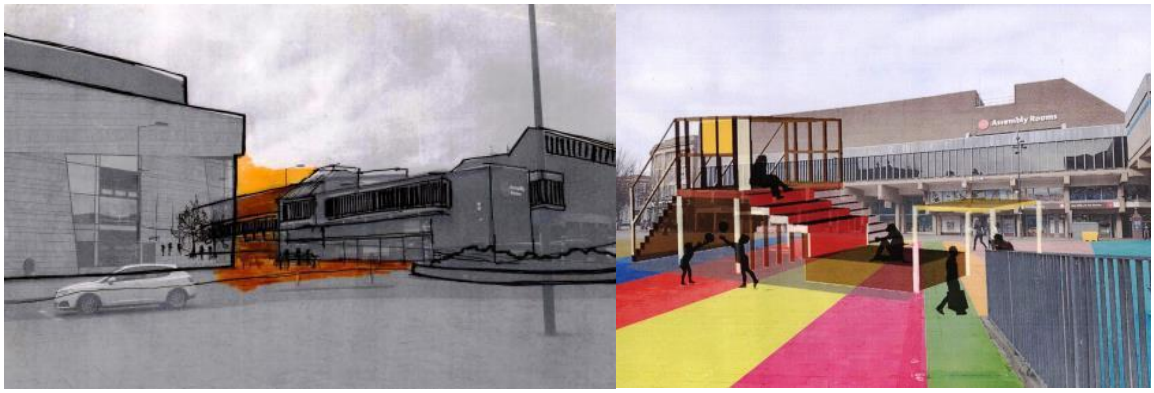

Figure 17 (Left) Revitalising empty squares.
Figure 18 (Right) Low-cost colourful playground and relaxing area.
Courtesy: Patricia Nimo.

This student's vision is that regeneration programmes should target young people in the peripheries to design and play in sustainable and safe community public spaces. Education is a vital part of this process; the community should be able to understand the built environment in which they live. She suggests a bottom-up approach to blur the lines of politics within architecture and urban design; everybody would be able to co-create in order to generate a livable city for all residents. Family oriented activities should be introduced within the city streets and ongoing year round activities should bring residents from the

suburbs into the city centre. And we should encourage youths from the suburbs to engage in community led activities by giving them active paid roles. Temporary installations hacked into open public spaces should be devoted for game for locals and visitors (spontaneous and non-lucrative use). Local businesses could also help people with provision of cheap materials to co-create playful and relaxing places. Tactical design should also keep people healthy and fit in body and mind.

CONCLUSIONS

It is understandable that education should be at the heart of any participatory initiatives as a start. As a first attempt and trial, during the delivery of the module mentioned above, the author and her students had started some contact with some representative from a group of local youths in order to investigate on the needs and urgent necessities of the younger generations living in that suburban area. On this occasion of her teaching activities for this module, she was able to get her students motivated on the real issues in that area. Students and locals should participate actively in the social and urban regeneration of those areas, if we wish to get a real impact with all scheduled future and ongoing interventions and events. Social and educational activities can be eventually organised/coordinated and supervised by academics; innovative methods and tools of e-planning are going to be used for research and proposals in the near future, and follow-up projects year-by-year. Thus, all sides will benefit from learning skills at a variety of levels; activities of urban acupuncture and co-working spaces have been already discussed. These solutions will not only have youths getting specialist skills, but also be able to feel confident to start their own local businesses and/or carry on with further studies. It is envisaged that ongoing efforts in that way could have a better result rather than penalties, exclusion/expulsions, and perhaps in some cases detention.

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PRODUCING HOUSING PLANS FOR LONDON'S OLYMPIC AREA: THE ROLE OF CONFLICTING AGENDAS AND INTERESTS COMING FROM ABOVE, ACROSS AND BELOW IN THE ENGLISH PLANNING SYSTEM

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INTRODUCTION

1 April 2012. A significant day for east London, for it marked the day that the London Legacy Development Corporation (LLDC) was established to oversee the planning and delivery of urban development within London's Olympic area, east London. East London suffers from some of the highest levels of socio-economic deprivation seen within England. Ostensibly, the urban development and regeneration within London's Olympic area is geared towards addressing the socio-economic needs of east London's multi-ethnic working class communities. But, what policy agendas and whose interests are the LLDC actually privileging within its urban development plans? Critically, what role does the English planning system play in shaping what policy agendas and whose interests are being privileged within the LLDC's urban development plans?

I address these questions by exploring the production of the LLDC's "affordable" housing plans for London's Olympic area. I draw on interview material, ethnographic research, and planning document analysis to highlight the conflicting national, metropolitan, local and neighbourhood level interests that are attempting to shape the LLDC's "affordable" housing plans. I particularly discuss the role that the English planning system plays in structuring the power that various governance actors and various policy agendas have had to shape the LLDC's "affordable" housing plans. Theoretically, I engage with, and critique, perspectives mobilised by planning scholars within the post-politics discourse. I make two arguments. Firstly, I argue that the English planning system's structural privileging of neoliberal policy agendas mean that social need is ceding to financial greed within the LLDC's "affordable" housing plans. Secondly, contrary to framings of statutory English planning spaces made by post-politics scholars, I argue that within the LLDC's statutory planning spaces communities have brought antagonisms to the fore.

LONDON'S OLYMPIC AREA, PLANNING FOR HOUSING, AND POST-POLITICS

London's Olympic area, otherwise known as the LLDC's planning boundary,[1] is located within the heart of east London and falls within the borough boundaries of four Olympic host boroughs—Hackney, Newham, Tower Hamlets, and Waltham Forest (see Figure 1).[2] Perhaps because London's Olympic area fell within four borough boundaries, former London Mayor, Boris Johnson, set up the LLDC in April 2012 to oversee the planning and delivery of urban development and regeneration in London's Olympic area in the aftermath of these Olympic Games (the Games were held in the summer of 2012). When setting up the LLDC, Boris Johnson, reflecting wider local government ambitions,[3] harboured ostensible aspirations for Olympic related development and regeneration to distil direct benefits to east London's communities:

> The Olympic investment in east London, and the recognition arising from association with the Games, should be used to affect a positive, sustainable and fully accessible economic, social and environmental transformation for one of the most diverse and most deprived parts of the capital.[4]

For Boris Johnson and London's metropolitan government, the Greater London Authority (GLA), development and regeneration within London's Olympic area was thus ostensibly aimed at "lessen[ing] inequality across London.[5] This ostensible aim to ensure that Olympic related development and regeneration would be "for the direct benefit of everyone who lives there",[6] in particular east London's working class communities, was to be the social and economic legacy arising from London 2012.

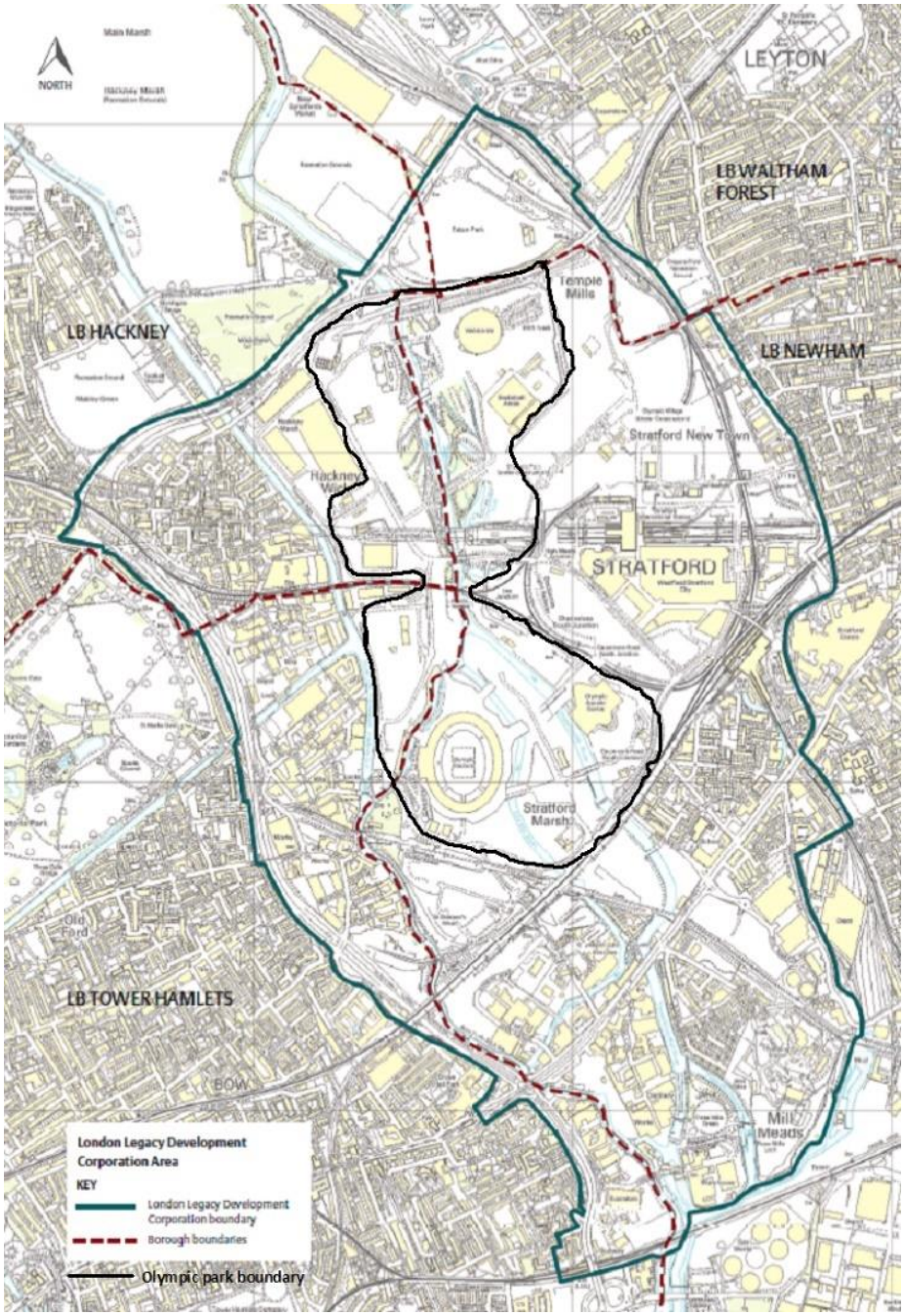

Figure 1. London's Olympic area/the LLDC's planning boundary[7]

On a housing front, these ostensible government aspirations should have required the LLDC to plan ambitiously for high-levels of social-rented and "affordable"-rented housing within its boundary.[8] [9] There is an acute demand for social and "affordable" rented housing within east London, and more broadly within London (see Table 1).

Table 1. Number of households on local authority housing waiting lists in London and within Hackney, Newham, Tower Hamlets and Waltham Forest, 2010 – 2015.[10]

Local Authority area	Number of households on housing waiting lists by year					
	2010	2011	2012	2013	2014	2015
London	344,771	354,401	380,301	344,294	255,729	263,491
Hackney	11,956	13,423	14,171	15,090	7,926	10,715
Newham	31,851	32,045	30,975	24,179	15,582	16,755
Tower Hamlets	22,707	23,128	23,406	24,428	20,425	19,783
Waltham Forest	15,624	16,153	21,864	25,054	20,635	15,405

Indeed, within a housing need assessment for London's Olympic area that the LLDC commissioned Opinion Research Services (ORS) to conduct in 2013, ORS concluded that the LLDC's planning boundary had an "extremely high total affordable housing requirement of amounting to more than 100 percent of planned dwelling delivery in the study area".[11] The LLDC are planning for over 24,000 new homes. Consequently, ORS's report highlighted that, from a needs-based approach, the LLDC should have been planning for in excess of 24,000 new "affordable" homes. However, as we will come to see, English planning's current operation as a form of governance, and broader financial considerations, inhibited the pursuit of such an ambitious "affordable" housing target by the LLDC.

An important discourse which has come to powerfully impact upon critical conceptualisations of English planning over the last 10 years has been the post-politics discourse.[12] Phil Allmendinger and Graham Haughton have perhaps been the most prominent planning scholars to mobilise the post-politics discourse within English planning.[13] Allmendinger and Haughton have argued that in the current conjuncture:

> [S]patial planning in England needs to be analysed as a form of neoliberal spatial governance, underpinned by a variety of post-politics that has sought to replace antagonism and agonism with consensus. Conflict has not been removed from planning, but it is instead more carefully choreographed and in some cases displaced or otherwise residualised.[14]

Allmendinger and Haughton's concern is that this ostensible residualisation or displacement of conflict from state planning spaces, and its replacement with consesnsus, serves as a powerful technique of governing for state planning actors. Importantly, they argue that this technique of governing bolsters the state's (at a variety of imbricated scales) pursuit of neoliberal policy agendas (e.g. economic growth agendas) and governance rationales (e.g. profit-making informed financial rationales) within planning. This is because Allmendinger and Haughton view the ostensible residualisation or displacement of conflict from planning, and its replacement with consensus, as a technique that "mobilises and reproduces acquiescence" within statutory planning spaces for these neoliberal policy agendas and governance rationales.[15] In the following sections, I use my empirical findings to assess these key arguments made within the post-politics discourse. Building on emerging critiques of the post-politics discourse,[16] I challenge the contention that within statutory planning spaces there is broad-ranging acquiescence for neoliberal policy agendas and governance rationales.

STATE-LEVEL INFLEUNCES ON THE LLDC'S AFFORDABLE HOUSING PLANS

The production of the LLDC's "affordable" housing plans coincides with the broader production of their *Adopted Local Plan* (Figure 2). The production of this *Local Plan* took place within a hierarchical and rules-based (but also discretionary) planning system. The effect of these combined technologies of governing is that the planning policies laid out in a local planning authority's (LPA's) Local Plan needs to conform with the strategic planning policies laid out within higher-level plans (Figure 3). Importantly, these technologies can arguably be regarded as chief ways in which lower-level planning bodies are

made to consent to pursue localised expressions of the policy approaches and governance rationales that are mobilised by higher-level planning actors.

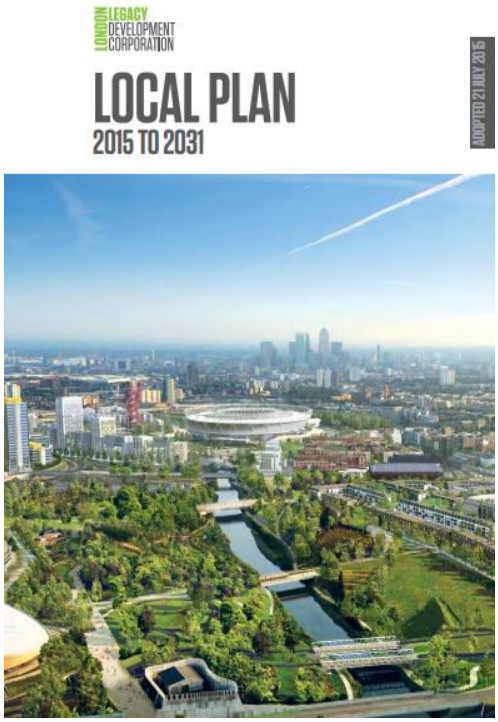

Figure 2. The LLDC's Local Plan[17]

Figure 3. English Planning's basic structure

For the LLDC, these technologies of governing mean that the policies found within their *Adopted Local Plan* have had to conform with planning policies in relevant iterations of the GLA's *London Plan*[18] and

central government's *National Planning Policy Framework (NPPF)*. Additionally, a senior LLDC planning officer that I interviewed highlighted that the LLDC were also simultaneously attempting to "bring together" the planning policy approaches adopted by the surrounding host boroughs into "one plan that deals with the LLDC area as a whole". In this section, I highlight the extent to which the LLDC's "affordable" housing plans conform with the policy approaches mobilised by central government, the GLA and the Olympic host boroughs.

Within the *NPPF* central government adopt an approach to "affordable" housing delivery which initially appears to be chiefly driven by social need considerations. Paragraph 47 of the *NPPF* states that LPAs should plan for "the full, objectively assessed needs for market and affordable housing in the[ir] housing market area".[19] However, when you delve deeper into the *NPPF*—in policy paragraph 173—you also importantly see a financial rationale emerge which has notable ramifications for central government's approach to "affordable" housing provision:

> Pursuing sustainable development requires careful attention to viability and costs in plan-making and decision-taking. Plans should be deliverable. Therefore, the sites and the scale of development identified in the plan should not be subject to such a scale of obligations and policy burdens that their ability to be developed viably is threatened. To ensure viability, the costs of any requirements likely to be applied to development, such as requirements for affordable housing, standards, infrastructure contributions or other requirements should, when taking account of the normal cost of development and mitigation, provide competitive returns to a willing land owner and willing developer to enable the development to be deliverable.[20]

This policy conspicuously highlights the central role that viability considerations—which is fundamentally about not jeopardising the ability of landowners or developers to gain competitive returns from the delivery of development—should play in shaping the planning and delivery of development, including "affordable" housing, within England. Importantly, as Jerry Flynn has highlighted in his research into viability assessments, this means that the *NPPF's* approach to planning for "affordable" housing puts "developers' need for profits" above a "local community's need for homes it can genuinely afford to live in".[21] This approach also takes place within a broader context where, despite the urgent need for social and "affordable" housing in England,[22] central government slashed the "affordable" housing budget for 2011-2015 to £4.5bn, which is nearly half the £8.4bn budget allocated from 2007 – 2010.[23]

Within London-level planning, the GLA's *London Plan* has adopted a similar policy approach to "affordable" housing. Although, *The London Plan* highlights that London LPAs "should, seek to maximise affordable housing provision",[24] it also highlights that the provision of "affordable" housing should ultimately be contingent on financial viability considerations:

> Negotiations on sites should take account of their individual circumstances including development viability, the availability of public subsidy, the implications of phased development including provisions for re-appraising the viability of schemes prior to implementation ('contingent obligations'), and other scheme requirements.[25]

The GLA's policy approach was to be expected given that English planning's structure structures the GLA into consenting to adopt the strategic policy approaches pursued within the *NPPF*. Additionally, this policy approach was to be expected given Boris Johnson's own developer friendly approach, as this interview response from a Green Party London Assembly officer highlights:

> A few of the Assembly workers that I work with think that the Mayor is too quick to accept the arguments of private developers that if you don't let us get away with this low level of affordable housing nothing will get built.

This planning policy approach to "affordable" housing has also come to be adopted by the Olympic host boroughs. Notably, the simultaneous mobilisation of social need considerations and profit-making informed financial rationales within each of these LPAs has meant that each borough has an overall target that 50 percent of new housing to be delivered within their respective borough boundaries should

be "affordable"[26]; although, for Newham Council and Tower Hamlets Council their planning policy only requires between 35 percent and 50 percent affordable housing on sites providing 10 new residential or more (subject to viability).[27]

Given that the LLDC sits below the GLA and central government in the planning system, and given the surrounding Olympic host boroughs' policy approach to "affordable" housing, it is unsurprising that when the LLDC was initially devising its "affordable" housing target it adopted a similar policy approach. Notably, the LLDC chose to depart from the needs-based target for London's Olympic area because as ORS themselves highlighted, "affordable" housing requirements "must also be considered alongside…the viability of delivering affordable housing".[28]

As the LLDC's planning policy approach was ostensibly drawing the Olympic host boroughs' planning policies, I was expecting the LLLDC would have adopted a 50 percent "affordable" housing target. However, within the early iterations of the LLDC's *Local Plan* it was clear that they would adopt a much lower target than this. The LLDC would come to pursue a 35 percent "affordable" housing target.[29] This deviation can be explained by bringing in conversations about the broader financial agendas that development and regeneration within London's Olympic area is ultimately meant to be serving. Operating in the shadows of development and regeneration planning within London's Olympic Park is a financial requirement for the LLDC to pay the National Lottery back the £425m that Tony Blair's Labour government borrowed from them in 2007 to fill a shortfall in the budget for the Olympics.[30] A senior development and projects officer at the LLDC highlighted to me that the LLDC have subsequently been required to "grow the values, in terms of the financial values, from the residential and commercial development that [they've] got coming forward". Given this profit-making objective that the LLDC has, it is unsurprising that they have adopted a lower "affordable" housing target than the surrounding LPAs' respective "affordable" housing targets. Adopting this lower target will enable the LLDC to enhance the capital receipts that it can generate from housing development within London's Olympic area.

COMMUNITY-LEVEL CHALLENGES TO THE LLDC'S "AFFORDABLE" HOUSING PLANS

The LLDC's pursuit of a 35 percent "affordable" housing target calls into question the extent to which the housing needs of east London's working class communities are at the heart of the LLDC's housing plans. Indeed, these concerns informed the indignation that local working class residents had towards the LLDC's "affordable" housing plans. The main avenue through which these communities voiced their discontent with the LLDC's "affordable" housing plans, and attempted to transform them was through the statutory consultations that comprised part of the LLDC's *Local Plan* production process (Figure 4). In England, statutory planning consultations have been heavily criticised by critical planning scholars and community campaigners for not offering genuine spaces for state-level plans to be debated and challenged.[31] Consequently, there was the concern that the statutory consultations into the LLDC's *Local Plan* could have operated as a form of post-politics.

However, local communities actually displayed their power to bring antagonisms to the fore within these consultations, regardless of whether or not the LLDC desired this. For instance, during the consultation into the *Draft Local Plan* (from 2 December 2013 to 7 February 2014), and as part of broader contestations over the LLDC's proposed planning policies, local residents strongly challenged the LLDC's "affordable" housing target. They were "very unclear how existing and less well-off communities will genuinely benefit" from these "affordable" housing plans.[32] They argued that the LLDC should adopt an "affordable" housing target that more closely reflected the social need target provided within ORS' report on the LLDC's local housing needs. These residents also argued that the LLDC should ensure that most of the "affordable" housing that the LLDC was planning for was social housing, due to the evidenced need for social housing within east London (see Table 1).[33]

However, the statutory consultation in which the LLDC's "affordable" housing plans were most forcefully challenged was the Examination in Public (EiP) into the second major version of the LLDC's *Local Plan*. The EiP was held from 3 March 2015 to 13 March 2015 in the LLDC's offices. Within this EiP, an array of governance actors engaging with the LLDC's *Local Plan* production process came together in a number of sessions to debate and seek alterations to the LLDC's *Local Plan*; the

proceedings were adjudicated by an independent planning inspector. In the "affordable" housing session, the LLDC received strong challenges over their "affordable" housing plans, with particular dismay being expressed over the LLDC's "affordable" housing target:

> We consider that policy H.2's target for affordable homes is inadequate…You see Newham has set a target of 50 percent, while Hackney has the same target. Why should the LLDC be setting their own target, you know, at 35 percent, which is under what the SHMA which they rely upon for the boroughs indicate (local resident).

The LLDC's response highlighted that they were not intending on modifying their target:

> [T]he affordable housing 35 percent [target] has been based on the requirements of Policy 3.11 of the London Plan which specifically mentions viability. And so the Local Plan affordable housing viability testing has looked at different scenarios and concluded that 35 percent is the most…appropriate target to be set (LLDC representative).

Notably, the LLDC's response further reveals just how much credence that the LLDC were giving to the profit-making informed financial rationales that are also privileged throughout the planning system. Importantly, in the aftermath of this debate, the independent inspector thought that the LLDC had sufficiently justified their "affordable" housing target.[34] Thus, despite the significant and continuous community challenges to the LLDC's "affordable" housing plans within consultation spaces the LLDC's profit-making informed "affordable" housing target remained intact within their *Adopted Local Plan*.

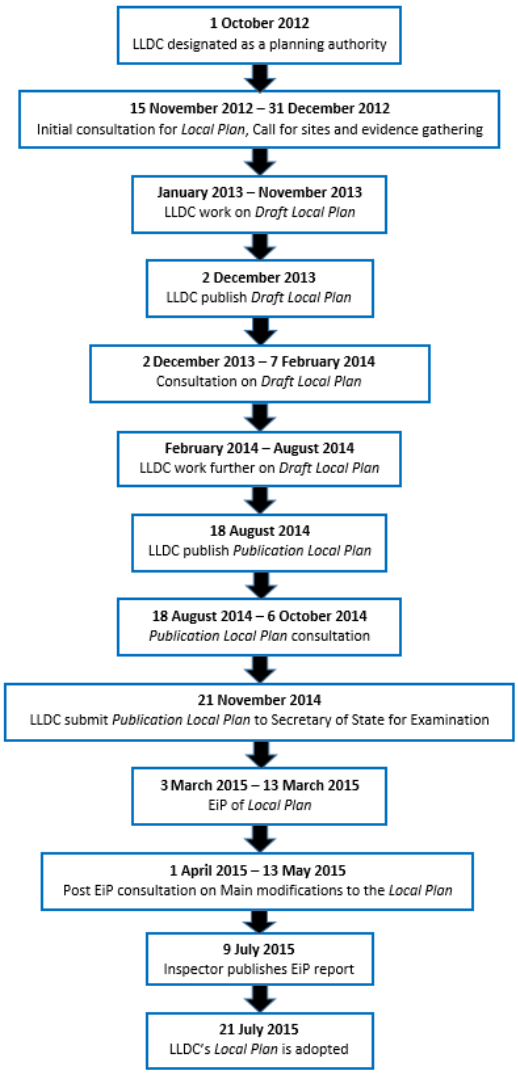

Figure 4. The LLDC's Local Plan production process

CONCLUDING REMARKS

Discussing the production of the LLDC's "affordable" housing plans has highlighted the policy agendas and governance rationales that have contributed to the LLDC developing a highly unsatisfactory "affordable" housing target for its boundary. Social need considerations have not been absent within the LLDC's "affordable" housing plans—as is evidenced by them actually adopting an "affordable" housing target. However, what is apparent is that these social need considerations have played second fiddle to profit-making informed financial rationales informing the deployment of viability assessments. Importantly, the LLDC have "justifiably" been able to do this because the LLDC operates within a planning system, and political economy more broadly, that also privileges the pursuit of profit-making informed financial rationales. Consequently, Allmendinger and Haughton are quite right to characterise English planning as currently representing a form of "neoliberal spatial governance".[35]

However, Allmendinger and Haughton are erroneous in suggesting that antagonism has been replaced by consensus within planning. From my study, it was evident that conflict was a persistent feature of the LLDC's *Local Plan* production process. So, a more accurate line of argument is that relations of antagonism and relations of consent currently coexist within English planning. However, what has also been evident is that community representatives' mobilisation of antagonsisms within the LLDC's planning spaces has not engendered alterations to the LLDC's "affordable" housing plans. Evidently, communities need to do more than just participate within statutory planning spaces to engender serious alterations to the most financially driven aspects of an LPAs plans. But, questions remain about the sort of community-level activities and actions that can successfully bolster the role that social need considerations play within the determination of "affordable" housing plans within English planning. Thus, there is an urgent need for planning research to begin to theorise radical, yet practicable, strategies for enabling social need rather than financial greed to be the chief architect of "affordable" housing planning.

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IN A CLIMATE OF CHANGE: CHALLENGES FOR SOCIAL INTEGRATION THROUGH HOUSING IN A FRAGMENTED CITY

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INTRODUCTION

Urban sprawl and rising urban populations create a greater need for new infrastructure to connect with the city and places an increased demand and cost on energy supply. We argue that the impact of government intervention in such a landscape becomes increasingly more difficult and less effective in terms of housing as a strategy and instrument to mitigate the effects of a fragmenting city. This paper is based in research undertaking between 2013- 2016 into two key housing projects within the Chilean government's Socially Integrated Housing program (SIH) (*Proyectos de Viviendas de Integracion Socia*l). The authors focus on two key aspects of the SIH program: the quality of the design and construction of the dwellings and the access to and distribution of services and connectivity within the neighbourhood and with the city. Firstly, we consider social integration through the location of the housing developments, the access to services and the related levels of satisfaction with and participation within the created neighbourhoods. Secondly, we consider social integration by assessing the typologies and performance of housing in the two SIH developments and the social-spatial relationship of the housing to the public spaces and amenity. Thirdly, from the aforementioned studies and in the absence of a social measure of integration other than household incomes as a percentage mix of the neighbourhood population, we develop the concept of *conviviality*. From this concept we identify that the SIH program, which is ostensibly designed to address social segregation, creates a new category of social segregation within the housing development and within the city. In conclusion, we propose a redressing of the financial incentive for lower-middle class residents (affordable housing) to live within the SIH housing developments. This alternative is based in renewable energy as infrastructure to alleviate lifelong and rising housing energy costs for climate control.
A note for the reader. The SIH program is essentially designed for two lower income social groups. Housing for the lower-middle class income group is described as affordable housing. Housing for the low income group is social housing. In effect and until 2015, the SIH introduced an extra housing subsidy (a social integration bonus of approximately US$4,000) as an incentive for lower-middle class (poor families) to live with even poorer families.[1] In a market economy some describe the lower-middle class euphemistically as aspirational.

BRIEF HISTORICAL CONTEXT OF SOCIAL HOUSING IN CHILE

Social housing as a form of social integration in the cities of Chile commenced in 1906 with Welfare State Workers Housing.[2] However, it was the period of modernisation of the Chilean economy from 1935 – 1960s that social housing responded to rapid urbanisation and the mass migration from rural to urban areas through housing policy. From 1960, the instrument for the solution to the growing informal settlements in urban areas was needs based state housing as part of city planning and urban development policies. This approach ended with the military coup in 1973. During the 17-year dictatorship that followed, the most extensive market lead restructuring of the economy was implemented.[3] The deregulation and privatization of urban land release and development, coupled with the introduction of housing subsidy by voucher in 1979 created a new relationship between the State, the individual family and the private sector,—the state as subsidy provider to the poorer families as housing consumers, who purchase housing as a product provided by the private sector. While this triadic form of housing subsidy did reduce the housing deficit, it delivered this with a legacy of poor quality and performing housing and greater social and urban segregation.[4] The deterioration of social cohesion and the seeds of a growing inequality of access to and distribution of services and urban connectivity were sown during this suspension of democracy (1973-1989). In 1990 democracy was returned to Chile with the continuation of the role of the State as facilitator for the private sector to build social housing.[5]
Social housing in Chile is built for ownership and 3 out of 4 houses are owned by their occupants.[6] This represents one of the highest ownership rates among OECD countries. Two thirds of houses/apartments in Chile receive some type of government housing subsidy.[7]

TWO SOCIALLY INTEGRATED HOUSING DEVELOPMENTS

In 2006 the then Chilean president Michelle Bachelet, referred to social integration in the following terms, “Urban and housing policies that ensure a better quality of life and better neighbourhoods for people and that promotes integration while reducing inequality”. [8] In the same year, the Chilean *Ministerio de Vivienda y Urbanismo* (Ministry of Housing and Urbanism) (MINVU) declared social integration as one of the main objectives of the urban housing policy.[9] Social Integration was defined in 2009 by MINVU as housing that provided:

- Equity in the access and distribution of services and urban infrastructure.
- Location that offers access and connectivity to services and urban infrastructure
- Social and economic mix
- Peaceful and tolerant social engagement

MINVU identified the following instruments and strategies to implement social integration through housing:

- Social rehabilitation of neighbourhood plans
- Location subsidy for young people to live in the city’s centre
- New subsidy for used homes
- Socially integrated housing developments (SIH)

Based on these definitions and instruments, the developments created under the SIH program must include between 20% and 30% of social housing, and between 20% and 80% of affordable housing, in effect targeted to lower middle class. Private developers who build the SIH housing determine the social mix of residents within these percentage ranges. MINVU’s Selection Guidelines of Projects and Families (SGPF) identify the eligibility criteria for these two social groups – social housing and affordable housing. Subsidies are offered to eligible applicants,[10] who then “shop around” for their house, in a market with limited options defined by the developers.[11] In addition to a purchase subsidy, further subsidies are available after purchasing the home for modifications or extensions to the house.

Geographically, Chile is a long, narrow country of 4300 km that is 350 km at its widest point. The metropolitan area of the capital, Santiago, has 7 million inhabitants who represent 40% of the national population of 17.5 million. Santiago has 7 times the population of the next largest city in Chile.[12] Chile's population is highly urbanised (90%) and the location of Socially Integrated Housing (SIH) projects on the growing periphery of the Capital is rationalised on the basis of land prices yet, this same pattern of development is repeated in smaller urban centres. This reality provides a national context to examine the response to the social segregation of cities through SIH projects.
As such, the two case studies of Socially Integrated Housing (SIH) examined in this paper represent housing on the outskirts of the metropolitan areas of the capital, Santiago and that of the city of la Serena, 500 north of Santiago (Figure 1). The first case study is *Casas Viejas* located in the metropolitan area of Santiago in the municipality of *Puente Alto*. *Casas Viejas* contains 2088 houses and was built in 2008. The second case study is Villa las Araucarias located on the outskirts of the main city of the IV Region, la Serena which had a population of 217,000 in 2015. Villa las Araucarias contains144 houses and was built in 2009. In both cases, projects are located in areas already defined by their socio-economic homogeneity (low-income residents) and deficiently equipped.[13]

Figure 1: Social integration through housing: the two case studies. Left, Casas Viejas, Santiago; Right, Villa Las Araucarias, La Serena (source: authors).

Two aspects of MINVU's key terms (2009) for social integration define this investigation of social integration through housing as a strategy and as an instrument to address urban segregation. The first includes the question of the physical and spatial access to services and general amenity determined within and by the location. This has a social dimension in terms of participation and use of public and community services and spaces. The second is in relation to an implicit notion of social sustainability inherent in the definitions of social integration through a socio-demographic mix and the term "peaceful and tolerant social engagement". Combined with the quality and performance of the housing types, we further consider the question of environmental sustainability as a social, economic and equity issue in terms of household energy consumption and its rising environmental and financial costs in relation to modes of transport for access to services and employment. From this complex matrix of elements involved in social integration through housing, we derive the term of conviviality –

"the art of living in community"—,[14] as a measure of the success or otherwise of social integration in the two case studies.[15]

The planned routes around and within both housing developments were mapped and analysed. This enquiry revealed an appropriation and expropriation of public spaces by residents. Within *Casas Viejas, Puente Alto*, by 2015, 77% of the extensive network of cul-de-sacs, integral to the development's urban design layout, had been closed. The residents of the cul-de-sac had closed these public spaces for their private entry and use. In addition, half of the grilled fences of all of the houses in the estate had been enclosed with semi-permeable or impermeable materials.

Figure 2: Villa Las Araucarias in La Serena, example of a visually impermeable fence (source: authors).

Within *Villa Las Araucarias, La Serena*, the housing development layout design had divided the estate in two by an open public space located in the middle that was used by no one. On one side of this space was located the social housing and on the other the affordable housing. With such a physical barrier to integration it was of no surprise that the community was divided along social economic lines. Initially built in 2009, without enclosed fencing for houses, by 2014 37% of houses were enclosed with visually semi-permeable or impermeable fences (Figure 2). The following year this rose to 85% of houses having been enclosed with visually semi-permeable or impermeable fences. The elimination of the passive surveillance in both developments and the consequent exclusion of private homes from public view have an aesthetic and public safety implication for public space (Figure 3).

Figure 3: Casas Viejas in Santiago, example of visually semi-permeable fences (source: authors).

Interviews with residents from both housing developments and more than 500 surveys were undertaken to investigate the levels of satisfaction with the housing and neighbourhood. Some answers revealed a set of contradictory findings which will be addressed later in this paper. In Villa las Araucarias, residents of affordable housing spoke of those in social housing in terms such as the "others", "those at the back", " the ones that don't pay a mortgage" and the "kept ones". When asked, 80% of residents of Villa Las Araucarias said they would like to move and the two the main reasons cited were anti-social behaviour and deficient security (Figure 4). In addition and in both housing developments there was limited use of public space and little or no participation in community activities. In Villa Las Araucarias 94% of those consulted claimed that they did not participate in any community activity. In Casas Viejas this figure was 87%. From the survey results and the spatial analysis "peaceful and tolerant social engagement" was not evident in either of the SIH projects.

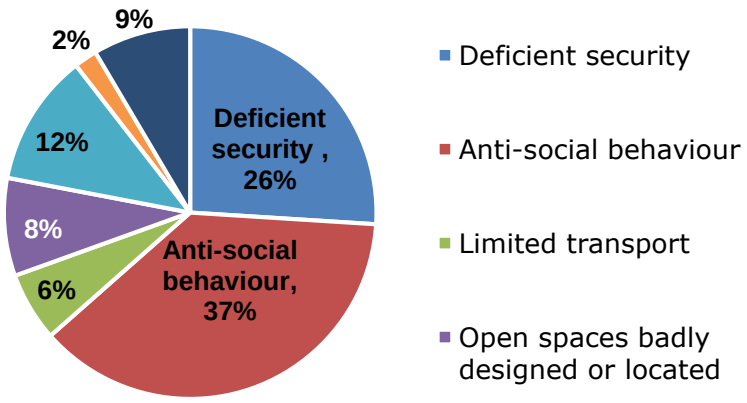

Figure 4: Reasons to want to leave the housing development in Villa Las Araucarias (source: authors).

However, the satisfaction levels with the housing that had been provided at the point of purchase were exceptionally high. In *Casas Viejas* this is reflected in 70% satisfaction levels (this is higher in social

housing than affordable housing). In *Villa las Araucarias* this satisfaction is 50%. Like other studies of isolated or isolating housing developments, the expectation of the housing is met because this is housing that can be afforded i.e. the expectations are low.[16] It is the impact of the location that is both the cause and perpetuating factor in the perception and the reality of segregation. This is particular to the lack of transport alternatives and car dependency as a further social divide.

While access to essential services (schools, police, or health centre) in both housing developments was met, the choice of, rather than access to, educational facilities distinguishes the residents of affordable housing who chose the subsided private schools outside from the housing development, from those of social housing who overwhelmingly used the local school. This self-segregation adds another layer to the existing segregation created by the location and quality of housing of the typology of housing built under the SIH program.

In *Casas Viejas, Puente Alto*, Santiago, the analysis of exiting housing conditions showed that 17,7% (369) of the total 2088 houses had had extensions or modifications made to the housing with little or no discussion with neighbours. An analysis was undertaken of existing conditions of the two housing types that define the households that constitute MINVU's "social and affordable mix". As a result of these observations, we drafted new condition house plans for the residents. This process enabled the occupants to comprehend the home as a designed environment that could be improved and which had a relation and impact on the neighbours and the neighbourhood. All the extensions made by residents had had a negative impact on the energy performance of the individual houses due to poor quality of the design, the poor quality of building materials, little or no insulation and the increased energy consumption of this additional floor space that lowered the overall performance of the existing dwelling. It should be noted that the social housing is small (50 sqm) for a two bedroom semi-detached home) and those of the affordable houses in the same development are only marginally larger (55 sqm). The need to extend and modify the dwelling is essential for households marketed to young *couples* and/or young growing families (Figure 5).

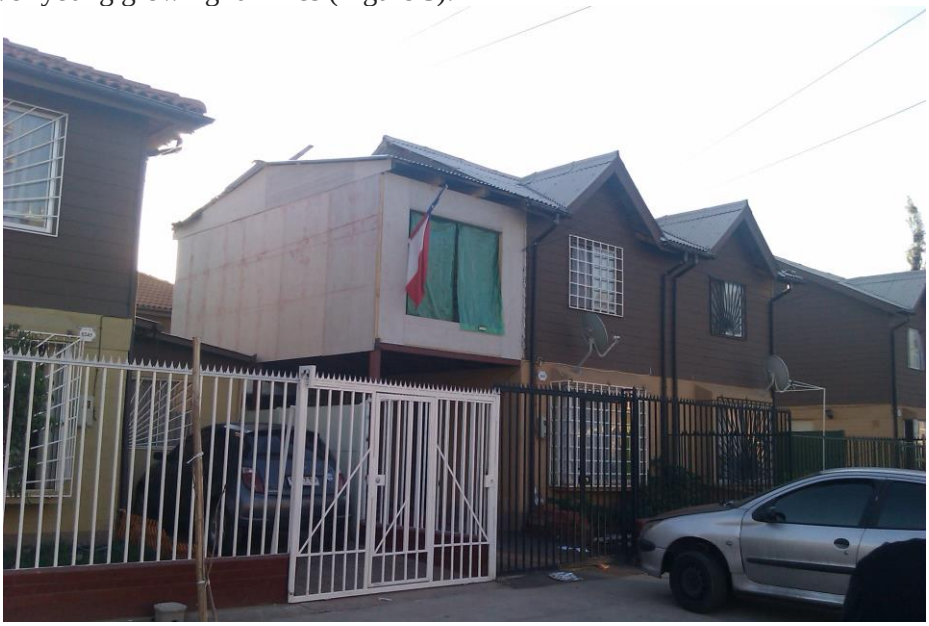

Figure 5: Example of an extended house (white room) in Casas Viejas.

The above spatial and social surveys of residents and the analyses of the two housing developments provided a measure against which to assess the four criteria of social integration that were developed by MINVU for its SIH program, (source: authors).

In terms of *Equity in the access and distribution of services and urban infrastructure* there is limited access to the city centre of major and provincial cities by default of the location. Irrespective of the distance from the centre (6km from the city's centre from *Villa Las Araucarias*), poor transport connectivity and poor quality urban spaces define this segregation. In *Villa Las Araucarias*, while essential services are close to the housing development, the lack of design and maintenance of open

public spaces result in their abandonment, or appropriation by gangs of youth at the exclusion of others. In relation to a *Location that offers access and connectivity to services and urban infrastructure*, the peripheral location combined with limited public transport limits connectivity and promotes car dependency. In *Casas Viejas*, 64% of the residents respond that they drive to work. In *Villa Las Araucarias* (although closer to the city centre) 70% of residents use their private car. In both cases, most residents living in affordable housing work far from their homes. The *Social and economic mix* in the two case studies shows only subtle diversity of household types regarding income. However, there is greater difference in educational levels. In both cases and housing typologies, most residents have completed secondary school, with many living in affordable housing having a technical or university degree. It is in the absence of a measure of *Peaceful and tolerant social engagement* that the idea of conviviality (or lack thereof) arises. In regard to conviviality, the housing development in *La Serena* is distinguished from *Casas Viejas*, only in the form and magnitude in which this fails to take place.

In *Villa las Araucarias* the failure for conviviality to take root is witnessed in the collapse of the resident group, the abandonment of the main open public space and the near complete enclosure of all individual houses with a consequent elimination of passive surveillance. In *Casa Viejas* this lack of conviviality is evident in the collective enclosure and privatization of 77% of the public spaces of the cul-de-sacs. The remaining streets as thoroughfares become the public space that is abandoned to the dominance of the automobiles, purchased by necessity of poor location and poor public transport connectivity to adjacent urban areas. These automobiles are parked on the street for lack of space within the private property. When asked, "what is your favourite place in the neighbourhood", 44% of residents in *Casas Viejas* responded "none", and another 40% said "my home". In *Villa Las Araucarias* 51% responded "none" and 24% of residents said that the "street produce market" was their favourite place. This answer is telling in that the produce market is culturally valued as a place of casual social interaction.

Conviviality in a community can be restored or built but it cannot be retrofitted into an urban design that does not consider jobs, transport and the potential adverse uses of public space together and in concert with housing design that does not accommodate the growth of families or the multiuse needs of a neighbourhood, within the estate. The location of large-scale housing developments, in the case of *Casa Viejas*, cannot build conviviality when they are self-reliantly located on the periphery of cities. Smaller housing developments similarly located on the outskirts of metropolitan areas, like *Villa las Araucarias*, has less amenity within the development. Segregation within is exacerbated when the physical division of the self-contained socio-economic mix is a strategic part of the urban design of the development to sell housing to lower middle class who are guaranteed separation on one side of the estate. In both housing estates, the visually identifiable differences in the quality and size of the housing for this socio-economic mix may or may not be well designed to disguise this fact. Irrespective of this difference in housing, the obligatory extensions to the houses exacerbate the high financial and health costs of housing that in its original state complies with the minimum standards required.

The research shows a discrepancy between the objectives of the policy of social integration and its implementation through the Socially Integrated Housing program (SIH): social integration as an objective v/s social integration as an instrument. The results of this research suggest that the approach to social integration through housing as an instrument should be inverted within the three levels at which it currently operate to prioritize the city, then the municipality and thirdly the housing development as part of the city's development. Three related questions for the SIH program are raised by this research. Is the social integration through housing program the most effective way to curb segregation of the city? Is housing an effective vehicle to address urban segregation? Might there be another way to promote social integration?

EXPLORING SOCIAL INTEGRATION BY OTHER MEANS

It is within relation to this last question that the authors began an investigation of what might be possible to consider within the current constraints of the SIH given the scale and location of the housing developments and the cost and source of infrastructure for energy at the point of construction

in greenfield or brownfield sites. Since the commencement of the SIH program, there have been several important changes in the national government policy in regards to energy, including the creation of two new ministries in 2010, the release of the National Policy for Urban Development: Sustainable Cities and Quality of Life in 2013,[17] and the adoption of a new national energy policy in 2015. The target for renewable energy of 60% by 2035 is reinforced in public policy terms by a commitment to 100% of the poorest households having access to continuous and quality renewable energy by 2045.[18]

We worked closely with the Faculty of Engineering, University of Chile to investigate the technical viability and the cost effectiveness of utilising geothermal energy for the climate control of housing being one of the highest household energy uses. Chile is one of three OECD countries with the lowest electrical power costs, due to the abundant sources of hydro-electricity associated with the mountainous geography and permanent glaciers for the length of the entire country. While hydroelectricity is deemed to be renewable it comes with an environmental cost through the necessary infrastructure, which is threatened by receding permanent glaciers due to climate change. In addition to hydroelectricity, Chile also has the geological conditions that make geothermal a feasible renewable localised energy solution for the climate control of housing in specific regions.

From the central region of Chile to southern extremity of the country, it is essential to have heating in housing. In the north of the country, in the desert and in the high plateau the need and solution for heating and cooling has a different context and probable alternative energy solution. As an assessment of the problem and to establish a baseline for *Casas Viejas, Puente Alto*, Santiago we compared the performance after modification and extensions to the ratings provided by MINVU's at the point of construction. The thermal performance of the original housing is D and the modifications lower this further to E.

Our proposition of alternative energy for the climate control of Socially Integrated Housing was underpinned by a practical and proven example of geothermal power being used in private housing developments,[19] and many commercial and industrial infrastructures in the south of Chile.[20]

Our investigation was framed to undertake a design and feasibility study of a geothermal heat pump system for the climate control of the Casas Viejas Social Integration Housing project (Figure 6) where the main sources of heating and cooling are natural gas and electricity. We estimated the energy demand for housing, identified the geothermal resource in terms of aquifer temperatures and availability of flow for extraction, and calculated the distribution network to make available this renewable energy source to households within the existing estate. We then specified the different components of the heat pump system and analysed the economic and social feasibility of the system. It should be noted that *Casas Viejas* is used as a hypothetical model and that the infrastructure for geothermal must be fitted before the construction of housing.

Figure 6: Feasibility study of a geothermal system for climate control in Casas Viejas. The blue dots show the location of the aquifers; yellow areas = affordable housing, green areas = social housing.

IN CONCLUSION

The national emphasis and policy shift towards alternative energy and sustainability (social, economic and environmental) creates the climate to consider different incentives to construct and live in Socially Integrated Housing. We believe there are opportunities to introduce sustainability guidelines to social housing that, as a by-product of this economic and environmentally sustainable measure, would make it also attractive to a larger cross section of society to live in such housing developments. This would promote social sustainability through social integration for different reasons for different socio-economic groups.

Such a change would lead by example in terms of the housing subsidised by the State and contribute to the sustainability objectives of the National Policy for Urban Development with housing as an effective instrument. Similarly, it would challenge the stigma associated with social housing that is demonstrated by the limited and conflicting "social and economic mix" of the existing SIH program. It would lower the lifetime energy costs of all housing in the socially integrated housing estate (when designed and installed at the point of construction) and generate monthly economic savings for the residents. A subsidy that reduces monthly household expenditure would, for the poorer residents, create new disposal income for essential costs – transport, food, clothing etc. For the aspirational class, this would create an incentive to purchase SIH housing as an appreciating aspect of the investment in light of rising household energy costs.

The potential of geothermal energy for the climate control of housing resides in the specific geology found in central and southern Chile, the sustainability benefits (economic, environmental and social) that increase with the scale of neighbourhood housing developments and the necessity of climate control of housing in these regions while energy costs continue to rise. It is possible to create an environmentally sustainability geothermal heating system for Socially Integrated Housing developments such as *Casa Viejas* that are located due to land prices on the periphery of Santiago and other urban centres. This does not alleviate the lack of connectivity inherent in the location but may hold the incentive for a greater social mix, promote better thermal performance of housing and create real benefits in the reduced energy cost to the household and the environment.

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THE ROLE OF CULTURAL ORIENTATION IN THERAPEUTIC LANDSCAPE DESIGN

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INTRODUCTION

Internationally, the population of people over 60 years of age is predicted to triple from 2010 to 2050, raising the number of aged citizens from 8% to 16% of the population[1].This ageing population is expected to create challenges for planners and designers to find more effective ways of maintaining health and social wellbeing into old age[23]. Ethnic diversity will be a primary concern for addressing uptake barriers in relation to physical activity and exercise for this demographic, whom experience great disparity in health outcomes[4]. According to the World Health Organisation (WHO), indigenous people embody a diverse range of cultures, religions, and traditions, yet are continuing to be undervalued and often experience great inequality in health than non-indigenous populations due to lack of fiscal or cultural accessibility[5].It is summarised that "indigenous peoples remain on the margins of society: they are poorer, less educated, die at a younger age, are much more likely to commit suicide, and are generally in worse health than the rest of the population"[6]. With the number of disabled elderly expected to double from 2013 to 2038, there is the risk that with an increasing inaccessibility to health care, the demographic groups which are already experiencing uptake barriers and poor health may be further disadvantaged[7].

However, due to New Zealand's increasing rates of immigration, concerns for health inequality is not limited to the indigenous population. The country is increasingly experiencing a shift from a bicultural to multicultural society, resulting in a more diverse range of cultural barriers and resultant problematic health outcomes, of which the country is ill prepared for[8]. This can be seen in the higher rates of disability not only in Maori persons, but also Pacific, Asian and other, comparative to the dominant European cohort[9]. It is predicted that the biggest demographic rise will be from Asian groups, rising from 12.2% to 20.9% of the population in 2038[10]. With the growth of the older population expected to increase not only in size, but diversity, planners and policy makers will be forced to consider the future needs and expectations of higher proportions of Maori, Pacific and Asian people[11].

While international research has determined that the frequency of general disability has declined, the prevalence and distribution of chronic physical morbidities has shifted[12]. In the coming decades, this ageing population will place a greater pressure on the health care system, to manage the rising cohort of elderly persons whom are experiencing a range of costly comorbidities, with high care requirements[13]. If unaddressed, elderly morbidity will have excessive outlays not only for the health system but for individual independence and quality of life. Widespread effective population-based preventative or rehabilitative measures will be imperative for developing resilience in older adults, to mitigate these negative health implications[14]. The framework known as 'aging in place', is globally considered, "the ability to live in one's own home and community safely, independently, and

comfortably, regardless of age, income, or ability level"[15]. Planning and urban designers are increasingly using frameworks such as this for developing urban environments, which support ageing populations.

Elderly are a main user of open green space, therefore, the usefulness of the public realm for population-based interventions, must not be undervalued[1617]. These outdoor environments offer an important platform for engaging older adults from a variety of social, cultural and ethnic orientations for the purpose of improving or maintaining their physical and mental health, as well as facilitating their social and cultural connections[18]. Furthermore, through targeted physical activity these landscapes have the potential to combat costly morbidity, not limited to, heart disease, diabetes and cancer[19]. In addition, reduced strength and lack of balance contributing to elderly falls, the most common cause of injury and fear, can be combatted through targeted physical activity[2021]. In addition, beneficial exercise and engagement with nature has proven mental health benefits by reducing stress and aiding mental disorders including dementia and depression[2223]. Consequently, a potential solution to rising elderly morbidity is to deliver therapeutic landscapes which incorporate age-specific outdoor interactive equipment or landscape elements, eHealth technologies or motivational strategies, into public green space, to encourage beneficial physical activity for a range of capabilities. This may be a cost-effective, sustainable approach to assist with supporting the increasing proportion of physically impaired elders in our communities[24].A primary concern however, is that the ethnically diverse people identified, often most in need of these interventions are unreachable through standardised western methods, despite the accessibility of the public realm[25].

METHODS

This project broadly investigates the many different landscape requirements that contribute to the accommodation of ethnic diversity. Using a multidisciplinary lens, the project compares existing technologies such as exercise equipment for the elderly, motivational strategies and eHealth technologies with research that addresses health benefits and wellbeing. The methodology of the research involves an exploration of literature of relevant participation barriers for engagement with the outlined physical activity strategies. The published literature was reviewed to identify studies on sociocultural barriers towards physical activity among various groups of elderly. Primary considerations included: different age ranges, gender, impairment types, physical capabilities, socio-economic status, and ethnic, religious and cultural orientations. Secondary considerations include: residential status, family compositions, marital relationships, and child care responsibilities.

FINDINGS

It was found that exercise interventions which combine mixed types of physical activity such as aerobic, strength and balance training across a range of intensities were most effective in combatting a range of problematic disorders including cardiovascular diseases, neurological disorders, cancer, osteoarthritis, frailty, type 2 diabetes, obesity, depression and sleep problems[26]. It was found that currently outdoor exercise equipment is appropriate for training cardiovascular fitness, balance and muscle strengthening, however there are low adherence rates in this kind of exercise among older adults. Findings suggest that there are numerous barriers which prevent certain user demographics from engaging in this type of beneficial physical activity[272829].While there were, many studies related to the benefits of using outdoor spaces for overall wellbeing and the adherence barriers for elderly people, very few studies analysed the suitability of outdoor exercise equipment for seniors of different demographic groups and cultural backgrounds. However, preliminary studies do suggest that physiological disparities because of detrimental inactivity, could be related to socio-cultural conditions and circumstances in the built environment[3031].

While strategies such as the Green Prescription has significantly reduced inactivity in community-dwelling elderly New Zealanders, research has shown that residential-dwelling individuals have been harder to reach, and may be missing out on these benefits[32]. Furthermore, elderly persons over 80 years were considered the least active, as are women comparatively to men, increasing their susceptibility to chronic health conditions, reduced balance and mobility which commonly leads to injury from falls[33].In addition specific minority ethnic groups were also disadvantaged, and may require the provision of culturally acceptable solutions for promoting physical activity in a more diverse manner[34].

The research found that the barriers which sustained physical inactivity, could be considered under the following broad headings: practical barriers; socio-cultural barriers; and knowledge barriers. Practical barriers regarding physical activity of older adults refers to physical, medical and economic obstacles to physical activity that individuals face, often causing lack of accessibility. Socio-cultural barriers of elderly refer to societal cultural beliefs, and social or religious practices which influence perceived barriers, or prevent persons from engaging in activity. Knowledge barriers concerning inactivity of elderly refer to linked socio-cultural factors which mean that people from ethic groups might not have accurate or full access to knowledge of the benefits of physical activity or health resources.

Practical barriers

Self-efficacy is a person's perceived abilities to perform a certain behaviour to achieve a desired result. Research suggests that regardless of cultural difference, the barrier of self-efficacy is a problem to all elderly people[35].Therefore, identified barriers may be genuine issues, or could be perceived barriers which equally impact the senior's ability to participate in physical activity. Main physical barriers were concerns regarding mobility and capability[36].Many older people felt that certain health conditions prevented participation. This may be due to recommendations from health professional or merely a perceived barrier. Furthermore, with or without existing conditions, many articles recorded the concern adults had for becoming injured as they entered later years, as over 30% of elderly persons over 65 year, fall at least once each year[37]. Furthermore, more than 70% of seniors suffered from fear of further falls, resulting in lack of confidence, and avoidance of physical activity leading to a greater chance of falling[38]. Some seniors emphasised that they were wary of being knocked over by younger persons, which discouraged them from using facilities in public space[39]. To address these issues, it was suggested by seniors that separate recreational facilities should be provided which only cater to elderly needs, however this creates issues around exclusivity, in a context which is aiming to promote inclusive recreation in public space. Other concerns for safety were in respect to lack of supervision in outdoor situations, and/or lack of feedback in terms of the suitability of certain types of exercise[40]. Further practical barriers included: lack of access to health resources; and time pressures which limited engagement with physical activity[41]. It was found that although the majority of elderly persons agreed that exercise was important for maintaining health and wellbeing, yet nearly two-thirds do not include it as a high priority[42].

Socio-cultural barriers

Socio-cultural barriers were found to be the most difficult to overcome in a design sense. Cultural expectations, such as lack of social acceptability for older persons to exercise, was a significant external influence. It was found that there were certain stigmas around elitism and notions of masculinity, which discouraged females of various cultures[43]. This was not helped by societal, cultural or religious perceptions about wearing tight/exercise clothing or performing physical activity in public places. Additionally, a significant percentage of the demographic have social structures different to that of 'individualist' western values. Complex relationship with other family members, such as lack

of support from spouse and family, or living in extended families significantly contributed to exercise participation[44]. Furthermore ethnically diverse people from multi-generational family units may stay active differently to that of the dominant culture. Another dimension to this was childcare responsibilities which took priority over engagement with physical activity[45]. Therefore, it can be interpreted that the relationships with other family members or friends, may have a significant impact on a senior's engagement with physical activity, a factor often not considered in the design of elderly exercise equipment or health strategies. Furthermore, many religious or cultural beliefs such as perceived acceptability of elderly or ethnic persons to exercise or the appropriateness of certain types of physical activity and clothing, were found to contrast with standard western views, thus, preventing certain demographic groups from undertaking physical¬¬ activity in certain contexts[46].

Knowledge barriers

An important knowledge barrier in New Zealand, is an education issue involving lack of awareness around why or how to participate in physical activity. Studies showed that people of lower socio-economic status had less educated individuals who had less knowledge around the importance of fitness, undertook less beneficial exercise and spent less time participating in physical activity per week. On a different note, it was also acknowledged that language or cultural barriers may be a problem in the success of exercise promotion, or in terms of signage which demonstrates correct ways of using interactive elements[47]. Furthermore, we conclude that that existing systems do not often align with traditional healing methods, which presents a significant gap in the appropriate conveyance of health care.

DISCUSSION

In response to these participation barriers it can be concluded that a therapeutic landscape needs to incorporate the following design parameters: progressive and adaptive design and feedback technology; intergenerational and inclusive design; landscape integrated solutions and traditional healing systems.

Progressive and Adaptive Design and Feedback/eHealth Technology

Physical barriers such as mobility and capability concerns may be addressed through appropriately designed age-specific equipment which takes into consideration reduced ranges of motion, strength and balance. This could be further enhanced with suitable hand rails, safety materials and flooring, and simplified designs which are related to daily activities[48].Additionally, accessibility for persons with walking aids must be incorporated. This has been seen in some equipment currently available on the market such as the "handicapped fitness series", which focusses on upper body strength, however it is not inclusive to other capabilities[49]. This needs to be addressed in an adaptive approach, whether it be in the equipment itself or in the layout, to provide adequate challenges which increase difficulty for a wide range of capabilities and progress. Furthermore, if feedback systems were integrated into the equipment, which measured the suitability of each activity based on individual performance, it would allow elderly persons to gain confidence. In addition, it would ensure their own safety, while effectively rehabilitating existing health conditions, and delaying the onset of other age related illnesses. This technology may also help people with limited access to health resources to gain important knowledge for improving their physical wellbeing. Furthermore, research found that eHealth technology such as this could increase individual sense of wellness, including physiological, psychological, social and health well-being, as this patient-centred approach could provide progressive engagement with long-term physical activity participation[50].

Intergenerational and Inclusive Design

The time barriers which many elderly face may be better understood as the prioritisation of other activities above physical activity which limits the time available to exercise[51]. This may be addressed by changing the perception of what exercise activities are. If the landscape is designed in a way which integrates physical activity with other daily activities such as spending time with children or socialising, then more successful uptake may be achieved[52]. This may also address identified socio-cultural barriers such as adjusting for influential relationships within multi-generational family units and childcare responsibilities. To design for this there may be a need for elements which require group input, or perhaps have a fun intergeneration layer to promote beneficial social interaction[5354]. This may create a cultural shift which contradicts the familiar expectations associated with exercise. Considerations such as making equipment less intimidating, or 'gym-like', by developing the materiality and form, may take away negative exercise connotations and reduce stigma barriers regarding appropriateness.

Landscape Integration and Traditional Healing Systems

Another technique for achieving more approachable interactive installations is through integration with the landscape. Using landforms, natural settings and existing structures, to set interactive challenges for the ageing public may redefine what an exercise intervention is, broadening the scope to include a therapeutic landscape. In this context, another strategy for raising awareness and participation in culturally diverse demographics may be to consider traditional healing systems. This may bridge the gap between health professionals, the built environment and indigenous people to deliver education around why or how to participate in physical activity, in ways which may have been lost throughout generations, or which is perhaps not supported in current landscape design. An assessment of elderly exercise equipment currently on the market showed that some elements are designed based on international traditional exercise, such as Tai Chi Wheel, based from the Chinese Tai Chi martial arts; or the Cross-walk, inspired from Nordic walking. To the best of our knowledge there is currently no research or development regarding the adaptation of traditional Maori or Pacific exercise techniques, for contemporary health promotion. Our recommendation is that integration with the landscape will be imperative, due to the strong connections Maori people hold with the land, and the native flora and fauna[55]. If research in this area is done in the future, it will be imperative that *kaitiakitanga*, or 'guardianship' from *tangata whenua* is sought, or equivalently with different ethnic groups, to ensure appropriate processes and implementation.

It can be surmised that there are many barriers which older New Zealanders face in terms of exercise, thus, there is a need for interventions which provide a platform for elders to engage in physical and social activity, coupled with eHealth technology, to improve confidence and progressive engagement. This may assist seniors to overcome physical and perceived barriers, to allow them to effectively participate in physical activity[56]. Furthermore, lack of cultural suitability substantially limits the effectiveness of exercise interventions, by not appropriately encouraging physical activity for non-western people. Therefore, the design of outdoor therapeutic landscapes must encompass an approach that is sensitive, receptive and responsive to a diverse range of cultural perspectives, not just a western paradigm[57].

CONCLUSION

In the last decade, several researchers have called attention to the importance of outdoor built environments for successful ageing[585960]. It has been concluded that public green spaces provide an important foundation for engaging older adults from various social, cultural and ethnic backgrounds for increasing or preserving their physical and mental health, as well as enabling essential social and

cultural connections[6162].Yet, while it is well documented that physical activity in public green space has numerous benefits for health and well-being, it is found that culturally diverse uptake barriers are still prevalent regarding exercise participation, in these landscapes[636465]. Findings suggests that many current exercise strategies are predominately designed under a western paradigm and are ineffective at incorporating the role of cultural orientations. We suggest there is a need for a successful cross-cultural and inter-generational design methodology whereby responding appropriately to the physical and cultural context.

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CLASHING VISIONS – DECENTRALISATION MEETS CENTRALISATION

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INTRODUCTION

This paper reports on recent research into the social processes underpinning development of the urban built environment in Sydney, Australia. It reveals a fundamental tension between advice from a cross-disciplinary consensus among non-government researchers and planners, and government plans to expand the network of toll-roads across the metropolitan area. This paper offers new insight into the connections between the social positions and views of decision-makers and the processes by which changes are made to the physical built environment. It finds that financialization of toll-road projects is consolidating physical urban centralisation at a single node of radial, or star-shaped transport links that take people and freight in and out of the city centre. Meanwhile, advice from university and other non-government researchers is that a multi-centric physical urban form, supported by highly networked urban transport infrastructure, is a requirement for improving access to services and jobs. Bourdieu's field theory[1] can explain why government and non-government views differ and why non-government experts have limited capacity to influence planning decisions.

In this paper, a major infrastructure project called 'WestConnex' is used as a case study of the urban infrastructure field. WestConnex is a 33-km collection of new motorway connections, and was Sydney's most high profile and controversial infrastructure project in 2016-17, with an estimated cost of 16.8 billion Australian dollars. Public resistance against WestConnex has included protests and civil disobedience[2], especially since the commencement of evictions and the demolition of homes in inner city suburbs of Sydney[3] (see Figure 1).

Figure 1. Demolition of homes

WestConnex was initially proposed by the NSW Government in 2012 as a public private partnership[4]. However, the private sector was reluctant and cautious about investing in road infrastructure after suffering losses with previous large-scale tunnel projects in Sydney and Brisbane[5]. With this general sentiment towards road projects, it was very difficult for government to entice the private sector into a partnership and thus novel institutional arrangements were set up to 're-invigorate the private sector to get into the toll road space' according to a government official who participated in this study. These arrangements resulted in limiting public scrutiny through freedom of information laws[6].

To make sense of the data produced in this case study, urban infrastructure development is analysed as a Bourdieusian 'field' with complex links to the fields of government, international construction conglomerates and the research community. These fields determine distinct types of 'habitus'[7], within which individuals understand and experience their world, defining the types of planning goals, or utopian ideals, that they strive to realize. Thus, a university based researcher, a real estate developer and a treasury official can be expected to each have a different habitus, which determines how they access and use the 'capital'[8] (or means of participation) available to them.

This paper begins with a summary of the planning utopias that emerged from the data produced for this study. Then the non-government expert planning vision is defined. Competing planning utopias are analysed in terms of who supports these visions, what 'field' they are working within and how this relates to the composition of political capital. The paper argues that financialization in the toll-road space is a direct result of the so-called 'revolving door'[9] between government and the finance sector.

Methods

The research comprises an empirical study in which data was produced by document analysis and semi-structured interviews with key actors in the field. Fifteen participants agreed to be interviewed, and have been anonymized using alphabetical pseudonyms from A through O. These included representatives from government, non-government and intermediary organizations that operate at arms-length of government, such as statutory bodies or transnational research organizations.

The study uses Applied Thematic Analysis[10] to code the data according to Bourdieusian analytical categories. Features of the conflict over urban infrastructure can thus be viewed from each participant's social position. The concepts of *illusio*, *habitus* and *capital* theorize types of relationships between people to explain their practices and the meanings ascribed to them. *Habitus* can include the notion of world-view or orientation and explains the actions people take whereas *illusio* is the stake they have in the game being played in the field.

PLANNING UTOPIAS

The study shows that distinct social positions can be mapped and are associated with unique planning utopias. Table 1 shows the map of the WestConnex field produced for this study, and illustrates the relationship between participant support for WestConnex and organisational type. The first column shows the level of support for WestConnex, with three levels arranged into rows. The findings show that attitudes toward WestConnex are directly correlated with attitudes toward government use of private sector finance for public infrastructure. A second column was added to represent this in the map of the field. Specifically, those who did not approve of WestConnex, believed that 'the taxpayer' would bear the risks associated with the project, while private finance firms would benefit from it financially. The third, fourth and fifth columns group participants according to the types of organisations they belong to. The table shows that an individual's position in the network of fields can be expected to predict the stance they take[11].

Two distinct planning utopias emerge from the data. Government utopias aim to create value for the private sector and promote 'economic growth' through agglomeration, as discussed in the next section. By contrast, expert utopias are concerned with 'liveability' and its distribution across the metropolitan region.

The Expert Vision

This study finds considerable agreement between transport and planning experts working within universities, and activist experts working in non-government organisations. As each sub-field in the research community produces its own 'competing principle of legitimacy'[12], arguments from one cultural sub-field (such as transport economics) would be expected to have limited legitimacy within another cultural sub-field (such as public health). However, the data from this study indicate that there is significant cross-field support and shared legitimacy in the struggle between these sub-fields and government or the private sector. Thus, the knowledge that maintains 'cultural capital'[13] within the university setting is often used by activists and advocates to support their arguments.

An example of the concerns of those who work primarily with cultural capital is provided by a transport economics researcher, describing how government ought to approach the provision of urban infrastructure:

> '…asking what kind of city we want, and for me that's a healthy city, where there's equitable access to social and economic opportunities for everyone…It's also about bringing jobs and services closer to people where they are already living and providing affordable housing closer to existing employment centres so that low income people can live closer to employment' [Participant J, researcher, Non-Government].

Democratic values feature prominently in the urban design and planning literature and also outside of the planning field. For example, Participant O agreed that 'public debate is at the heart of all good decision-making' [Participant O, MP, Non-Government]. Experts also produce and defend substantive ideas about what constitutes liveability. Decentralization, or multi-centric city planning, is thought to be important and achievable through a combination of tax incentives for businesses to relocate to designated areas, and direct public investment in multiple 'cities' outside of the current city centre[14]. Other indicators of 'liveability' include 'health', 'sustainability', 'efficiency' and 'attractiveness'. Chance meetings of neighbours at local shops, playgrounds, dog-parks or other local attractions 'build' the local community. Providing shops, childcare and schools within walking distance of homes is thus important according to experts. As a planner notes, 'I want to make urban environments attractive and walkable' because this 'increases overall health and the enjoyment of life' [Participant I, planner, Non-Government].

Table 1. Stances towards WestConnex compared with social position

Attitude towards WestConnex	Attitude towards private sector financing for public infrastructure	Non-government organisation (NG)	Intermediary organisation (IO)	Government Agency or Department (G)
Supportive of WestConnex.	Supportive of private sector interests in government funded infrastructure			Finance Directors within government agencies and their staff (Participants D, E, F and G)
Neutral or ambivalent about WestConnex. .	Guarded or nuanced support of private sector interests		Researcher employed by government owned research body (Participant B) Employee of statutory body (Participant L) Employee of private consultancy firm under contract to government (Participant M)	
Critical of WestConnex.	Limited support for Government funding to go towards private interests.	Member of public advocacy association (Participant H) University researcher or affiliated (Participants I, J and K) Activist (Participant N) Member of Parliament (Participant O) Employee of private development firm (Participant A)	Employee of government owned research body (Participant C)	

Political Capital and Financialisation

In this paper, political capital is theorized as the power of the State. Though the concept of the State is controversial[15], it can be understood as 'the product of the gradual accumulation of different kinds of capital - economic, physical force, symbolic, cultural or informational'[16] that have accumulated in multiple public institutions and act as a 'nodal sector in the general field of power'[17]. Though the links between political power and economic capital are considered to be very dense, and the State's legitimacy is theorised to depend on economic growth and accumulation[18], in this paper they will be analysed as distinct forms of power. Bourdieu theorizes the state as 'the central bank of symbolic capital'[19], in which the State acts as a 'principle of orthodoxy' providing a critical mass of 'logical conformity', where people share assumptions and ways of thinking that maintain a core of relative social order. The State constitutes political capital, and this study shows how the priorities of the governing Executive structure the field and shape the strategies of individual government officials according to their habitus.

The increased importance of the private sector, and especially private sector finance[20], can be explained through the social capital of members of the government Executive, and in particular their professional and personal connections. For example, at the time this study was conducted the Premier of NSW was an investment banker before entering politics, with experience in 'securitisation', 'debt capital markets' and 'project finance'[21]. After resigning from politics in January 2017, Baird became 'chief customer officer, corporate and institutional' at one of Australia's biggest banks[22]. This is an example of the career trajectories of many senior politicians and has direct implications for government policy as described by Beetham[23]:

> 'With private firms hovering like vultures over the easy prey afforded by the guaranteed income of taxpayer-funded contracts, there is a ready market for the employment of newly retired ministers, civil servants and military commanders who can bring their inside knowledge and contacts to bear on the commissioning process'.

This phenomenon, known as the 'revolving door'[24], influences the public sector, by determining the habitus of public servants. For example, Participants D and E enthusiastically noted the sense of increased importance of their department since 2011 when the Liberal-National Coalition formed government and worked to strengthen the links between government and the finance sector. Directors from a funding agency claim that it is their department's job to look after the private sector, because the rest of government is looking after the interests of the government. The influence of their department is increased by the government's engagement with 'the market' to make state resources 'go further'. They claim their activities make more resources available to the government but admit that costs are thereby pushed into the future. All agencies are said to be increasing their 'sophistication' in dealing with 'the market' and bringing 'discipline' to government projects. Participant E notes that their department is now 'facilitating projects rather than being the compliance unit' [Participant E, public servant, Government]. This suggests that some projects may be chosen over others primarily based on private sector finance criteria. The increased importance of finance is thus deployed and built upon by government officials who thereby also further their careers. This illustrates how the strategies of individuals, within the opportunities and constraints of the government field, facilitate the 'permeation and penetration of finance into daily life'[25].

However, from the point of view of the research community and those working with cultural capital, these kinds of relationships are considered illegitimate. For instance, Participant O notes that:

> 'it's a very tangled web of liberal party insiders and rent seeking construction and finance companies who are influential. The genesis of WestConnex was actually in a report by Infrastructure NSW. … instead of referring to the public servants, who have experience and a depth of understanding, he [The Premier of NSW] established a separate body, called Infrastructure NSW. He put his mate, Nick Greiner, as the chairman of that body, and as you know he was the chairman of one of Australia's very important infrastructure companies, he put him in charge of Infrastructure NSW, and Infrastructure NSW came up

> with, surprise, surprise, a toll road option. It's interesting that Nick Greiner is now an advisor to Transurban, Australia's largest private toll road company' [Participant O, MP, Non-Government].

Participant O belongs to a political party with a platform based on resistance to the economic forces which other fields, such as the infrastructure field, are subject to. According to the Bourdieusian framework, this party participates in building cultural rather than economic capital which allows its MPs to publicly critique the connection between firms and governments. A senior planning researcher makes a related assessment of WestConnex:

> 'Somebody makes big money out of roads, Macquarie Bank, Transurban…it's a huge vested interest machine, which demands to be fed, so when they've done one road, you've got to find another one, and another one, you've got to find a bigger one, you know, all the time soaking up billions of public money' [Participant K, researcher, Non Government].

In its current form, political capital thus prioritises the goals of the private sector, while also maintaining the social capital of individuals who are part of the government Executive. Although this is a result of the strategies of individual actors, government policy confers legitimacy on the practices that favour private sector growth, such as awarding large infrastructure projects to private firms.

Connections between political and cultural capital are considered much weaker. A participant at arms-length of government notes that:

> 'Those people who are in political decision-making positions don't necessarily have any background in transport planning or any understanding of it, but they have strong opinions about how things should be done...Ultimately that individual does have a lot of power' [Participant C, research employee, Intermediary Organisation].

Australia's productivity commission, at arms-length of government, supports this view, claiming that 'institutional and governance arrangements for the provision of much of Australia's public infrastructure are deficient and are a major contributor to unsatisfactory outcomes'[26]. The following section documents the cultural view of WestConnex as a dystopia.

Centralisation as Dystopia

Participants from the research and activist communities claim that urban centralisation, described as intensified use of a single city centre (uni-centric) rather than distribution across many centres (multi-centric), results in undesirable consequences. They have concerns about increased economic inequality, impacts on work-life balance, and social isolation. Housing affordability is also considered a factor in the centralisation problem. For example, a transport economist notes that there are 'constraints', or 'economic limits', on centralisation:

> 'I think [transport issues are] possibly a constraint ... it's not only the cost of housing. If people are forced to move further and further out away from the CBD their transport costs tend to go up so obviously the percentage of their household income which goes on transport is going to be an important aspect to that' [Participant B, research employee, Intermediary Organization].

However, the lived reality of these limits is embodied. Commuting times of more than an hour each way between work and home, and the daily cost of multiple road tolls add to the difficulties experienced at this economic limit of centralisation. A community services consultant expresses some of the problems in terms of stresses on families and communities:

> 'Look at people in regional communities, where there's work available. They are five minutes from home, they get to spend time with their children and families, and they have very different life outcomes compared to people who have to commute an hour to work and an hour home' [Participant M, Consultant, Intermediary Organization].

Thus, even if it were possible to achieve the utopian goal of 'economic growth' through centralisation, experts warn that the average or low-income resident will not benefit. Instead, according to researchers, centralisation causes 'car-dependency', 'social isolation' and 'stress on families'.

Increased urban sprawl allows similar travel times to work. However, greater distances and additional tolls result in greater travel costs for road users. Non-government experts argue that centralisation should be avoided because it increases wealth inequality and places additional costs on those who can least afford it.

CONCLUSION

This study shows how connections between individuals holding government decision-making positions, and those in the private finance and construction sectors, influence habitus within the public sector. This habitus prioritises the concerns of finance and construction firms in government decision-making. The increased importance of private sector finance in urban development decision-making therefore has a distinct impact on urban form and the distribution of liveability.

The planning visions found in the government field are associated with a unique social position and are distinct from those in research and activist fields. If non-government expert advice on urban planning is classified as a type of cultural capital, the status of this capital can be measured in its inclusion or exclusion in government decision making processes on urban development. Independent planning experts are concerned about the trajectory of urban development decisions, but appear to be increasingly marginalised in the political process. Urban form is becoming more uni-centric, with radial transport routes leading into and out of the city. Even though planning experts argue for decentralisation and redistribution of liveability, uni-centric infrastructure continues to be the focus of government decision-making.

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OVERCOMING URBAN ALIENATION: REREADING THE SOCIAL HISTORY OF 'BUILDING HOME' IN THE TUZLUÇAYIR NEIGHBOURHOOD IN ANKARA IN THE 1970S

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INTRODUCTION

The effects of post-industrial capitalism have created commonalities across various geographies around the world in terms of the crisis of the human being. These include the negative effects of dominating architecture or the spread of new kinds of technology around communities and cities. The praxis of architecture has sought to transform these effects by objectifying spaces and producing knowledge of the objectified spaces. The human being of the twenty-first century faces issues—such as migration, urban diversities and refugee crises—which relate to architecture through concepts like deterritorialisation or belonging. In addition, disciplines such as geography and critical theory have sought to interpret the historical grasp of the body as a social and spatial agent, specifically since the 1960s. Parallel to their engagement with space and the body, critiques of architecture have shifted since the Neo-Avant-Garde theory of the 1960s; in a manner of speaking, there has been a shift in architectural ideology from the humanism of the Enlightenment to the 'new humanisms' of the Neo-Avant-Garde. It could be claimed that post-humanist approaches were a distinctive part of the humanisms of the twentieth century, and that its discursive and representative face changed in the 1960s. The emerging meta-theories on the body and spatial relations are a critical part of this shift.

The emergence of meta theories on the body as a political and spatial agent overlaps the distinctive histories of urbanisations belonging to different geographies. This paper initially intents to interpret one of these overlapping to find new problematics on the body, space and urbanisation. The alienating roots of urban spaces insinuate the semiotic, bodily and socio-spatial processes that constitute subjectivities. On the other hand, overcoming urban alienation requires a position of counter-resistance. Within this frame, the social history of informal housing built by marginal communities in major urban areas could be explored. In this paper, then, urban alienation and overcoming urban alienation will be elaborated through a look back at the distinctive history of a marginal and counter-resistant neighbourhood in Ankara, Turkey during the 1970s. The narrative of Tuzluçayır Neighbourhood points to two important features that provide insight into the issue of overcoming urban alienation: Firstly, this was achieved by breaking the usual socioeconomic production processes and thereby resisting hegemony; the second factor relates to the collective and bodily experience of building home that characterises Tuzluçayır. To frame this special field, two major conceptualisations will form the backbone of the discussion: Marx's conceptualisation of the theory of alienation, and Bloch's three motives of Utopia. The aim of this paper is to interpret the social history of informal housing through a spatiotemporal lens, and consequently to problematise urban alienation and how to overcome it in light of its multiple dimensions, including production, collectivity, the body and politics.

EVOLVING META THEORIES AND MARGINAL URBAN HISTORIES OF THE LATE 1960S

Looking back on the 1960s' critiques of Modernism, one striking critique was about the 'alienating' roots of modern architecture.[1] There has been no comprehensive explanation for this shift in architectural terms and concepts. For instance, in the *Doorn Manifesto*, 'the house' was taken as a fundamental ideational architectural unit, and was reconceptualised along with 'housing', 'community' and 'habitat (as the convenient environment of communities)'. Thus, the new paradigm of 'habitats' depends on the debate over 'housing' versus 'house'.[2] Although theory in architecture and its terminology have shifted in the post-industrial world, the attempt to understand the alienating affect of architecture with 'housing, community and habitat' has remained valid and implicit in urban studies up to the present.

The revival of the term 'alienation' in architecture in the late 1960s recalls the possible critical links between architectural theory and history and the 1960s' self as a historical crack. These links extended the discussion from the conditions of modern architecture to the conditions of urban space transformation. Over and above this, the 1960s is described as the period in which the world began to be characterised as a 'global village',[3] sharing economic, technological, political and cultural consequences in unprecedented ways, and as well as experiencing the transformations of urban space to absorb capital accumulation. Thus, in the transformation of urban spaces, within the interlaced modes of urbanisation/suburbanisation, architecture has become concerned not just with 'a house' but the interaction between houses.[4] Harvey (2017) claims that the rebellion that marked the 68 Student Movements was a response to this rising urban crisis:

> Worldwide, the 1960s is often looked at, historically, as a period of urban crisis. (...) It was being modernised around the automobile; it was being modernised around the suburbs. Now, the Old City, or what had been the political, economic and cultural centre of city throughout the 1940s and 50s, was now being left behind.[5]

Against the urban crisis, The Neo-Avant-Garde theories of the 1960s were a visible repositioning with architecture, one questioning spatial alienation. 'The human' to the Neo-Avant-Gardes is both the subject and object of ideology; therefore, they see new architecture as a mode of emancipating the body from its alienating contribution to space, and of the reproduction of space. Their critiques underline that the reproduction of space through subjectivities and the reproduction of subjectivities through space have a reciprocal effect which determine the borders, the relations, the psychology of urban daily life.

The socio-spatial history of Ankara has also marginal narratives of repositioning against the urban crisis of the 1960s. What makes different human geographies unique are their socio-spatial histories. Although these histories were the lives of some communities and were lived for some years, they were strongly affective, being influential and productive within and beyond its own geography. Generally speaking, postwar Turkey, as also the case around the world, saw the rise of urbanisation through the end of the 1940s, followed by massive rural-to-urban migration and a radical shift from peasant labour to worker labour in the 1950 and 1960.[6] As in various European countries, economic liberalisation between the late 1940s and 1950s flowed through American funds. Under these circumstances, the shantytowns that emerged in Turkey's cities can be seen as an informal response to large-scale urban transformations. As one of these emergent shantytowns, Tuzluçayır became a marginal part of the history of Turkey in the 1970s for various political, social and economic reasons. But what will be emphasised in this paper is its capacity to overcome urban alienation in the face of an increasing urban crisis. This can be attributed to two features of the neighbourhood: firstly, its breaking with the usual socioeconomic production processes, and secondly, the collective and bodily experience of 'building home' that characterises the Tuzluçayır narrative.

To elaborate the contradictory becoming of this patio temporal sociality, the evolution of the meta theory 'alienation' will be re-called. From Marxist roots to a redefinition of alienation in the light of becoming in performance, this research will also emphasise Bloch's three motives of Utopia.

THE NARRATIVE OF TUZLUÇAYIR

The post-WWII condition of the world has been a centerpiece of urbanisation studies. It is claimed that urbanisation was largely due to economic developments which triggered massive migration. However, in Turkey, urban transformation between the 1950s and 1980s cannot be understood simply as an adaptation to the economic shift from peasant labour to worker labour; it also includes political and socio-cultural dimensions. These dimensions initially relate to the struggle of counter-resistant communities, in this case mostly Alevi and Kurdish inhabitants who tried to sustain their cultural identities against the hegemony in Tuzluçayır. It was this resistance that had forced them to resettle in the first place, to flee political pressure.[7] In neighbourhoods such as Ege and Tuzluçayır in the Mamak district of Ankara, marginal communal life and its spatiality so emerged. To put it a different way, the community of Tuzluçayır was primarily made up of small communities pushed not only by economic but also social and political pressure. This contributed to the politicisation of the 68 Generation in Turkey,[8] and the Tuzluçayır of the 1970s became associated with the cultivation of left-wing activists. Thus, the community shifted a struggle from the periphery of the country to the periphery of the capital city itself.

The urban space of Tuzluçayır carries a socio-spatial history which is both a history of informal housing and the history of a counter-resistant marginal community. Wright (1981/1993) points out histories of marginal communities and housing through their separation from 'home' as a commodity object:

> In many cases consumerism became institutionalised in home decoration as advertising promised new ways to promote family togetherness, social prestige, and self expression. All too often, in suburbs and in cooperative apartments, community has meant the exclusion of those who are not like ourselves. These reactions, too, have a history.[9]

The social and spatial history of Tuzluçayır exemplifies how a marginal community can produce neighbourhood spatiality with the capacity to overcome the intensifying crisis of urban alienation, firstly by breaking the usual socioeconomic production processes, and secondly through the collective and bodily experience of building home. These 'revolutionaries' organised the collective act of building home;[10] as a result, their houses had use value rather than exchange value. This informal housing was produced through bodily experiences of collectivity. To elaborate these two features and to redefine the notion of overcoming spatial alienation, the emergence of the meta-theories of alienation and their relation with the body as a spatial and political agent can be interpreted.

There are many disciplinary paths for rethinking the concept of 'alienation', including the psychoanalytic, the anthropological and the social. It is a contemporary and fashionable term,[11] but the point of origin for its evolution is Hegel and Marx. The psychological approach to the term has been dominated by Existentialists such as Heidegger and Kierkegaard. It denotes a negative human condition in which the human or its condition is not specifically situated in history. In contrast, in the social approach of Marx, alienation is a historical process pertaining to the human. Therefore, it could be claimed that Marxist alienation is contradictory, historical and social (Sayers 2011: p. 5).

The four interrelated modes of alienation for Marx—alienation of labour, alienation of production, alienation of society and alienation of the self—can be together considered as a politico-economic interpretation of human estrangement in the modern world. But what is more important than being part and parcel to production systems is that this framework contains the epistemological and ontological dimensions of human life. First of all, it points to 'a process'. Alienation and overcoming alienation are positioned as processes. In this regard, to understand spatial alienation, it is crucial to ask questions about 'production, labour, society and the self' not only with regard to the political economic base of the modern world, but also to try to grasp human life and its spatiality from a paradigm which constructs the human as a socio-historical becoming. Production in this Marxist paradigm is not just material production, and labour is not only material labour; there is also life, and within it the human is the agent that produces itself and produces history via material and immaterial labour.[12] Marx and Engels emphasise the primacy of process over product in their writings;[13] therefore, the estrangement

of the human does not refer to a negative condition within an end, as assumed in existentialism, but to a process or processes pertaining to human life.

Analysing action and the processes pertaining to human life serve as an attempt to define alienation within space. Ingold (2011) describes history as processes of production and production as processes of being alive (p. 10). The human has the capacity to produce itself within processes, within history. Such a viewpoint suggests that process—that is to say, 'how to produce'—contains the embodied and immanent features of action and space. In a general framework, it could be claimed that the usual process of building houses in Tuzluçayır was broken by excluding the exchange value; instead, community members built houses with their own hands. Thus they had use value rather than abstract value. The houses were not fetishistic objects mystifying labour in its process of being built. The labour, the worker and the revolutionaries were the same bodies composing the community as a unity to objectify their homes.

Community and communal action could extend the discussion of the spatial alienation of the 1960s. Not only was the abstract value in the process of housing excluded by the residents of Tuzluçayır, but also the communal act of building also broke the dominant subject formation processes. To define alienation in the epistemology of subject formation, the questions arise: How does alienation come about? Is alienation an internal process of change? If K. Michael Hays stated that alienation is a process pertaining to the activity of the human,[14] then what else would free the human from the process of alienation: to emancipate it, or to create a resistant space?

Geyer and Heinz (1992) indicate that Marx and Engels had defined de-alienation as a part of the emancipation project of the human, and interpreted it as a progressive process of freeing the human from the domination and exploitation of ideological practices. But in this utopian process of change, during de-alienation, new forms of alienation emerge continually (p. 42). In this regard, to reinterpret the term, it could be claimed that de-alienation is not necessarily the reverse of alienation; on the contrary, it includes newly emerging moods of alienation:

> de-alienation differs by focusing on the reconstruction of peoples' relationships with themselves, others, with the fruits of their labor, the labor process, and nature. This makes de-alienation explicitly anti-capitalist and foregrounds the constructive processes (the intrinsic value accorded to creativity) amongst those engaged in what we would say is de-alienation. (Geyer & Heinz 1992: p. 42)

To elaborate, 'de-alienation' according to Marx and Engels can be thought of as overcoming 'alienation', concentrating on the epistemology of subject formation process. Unlike alienation, the conceptualisation of performativity directly concentrates on the epistemology of the body.[15] Nelson (1999) indicates that performativity is an unstable and partial process which is repetitive and regulating. In this repetition of the norms of dominant discourse, there are spontaneous moments in which discourses can be replaced or reread (p. 351). De-alienation may therefore refer to both a process and a repetitive moment of the body. Being designed or undesigned it contains emergency and spontaneity; it is both a process and moments, and it represents the hope of opening up new discursive spaces. 'Discursive practise' is characterised by this potential for resistance and change;[16] this paper claims that this potential can be associated with the body through performativity.

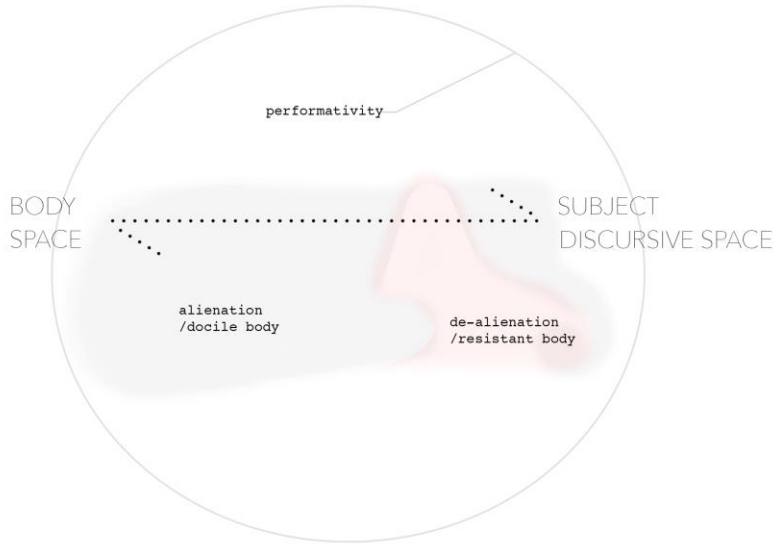

Figure 1. The remapping on a new definition of the body and alienation.[17]

Performativity contains the bodily processes of alienation and overcoming alienation. Neither body nor space has a zero point; in other words, there is no pure body or pure space without discursive formations, but at the same time, the subjugated body and discursive space are not totally closed by discourse. In this regard, performativity provides a grasp of the body which is not reduced to an alienated subject, but is reinterpreted as a *becoming in performance* of subjectivities, identities, discursive norms. The implications of 'performativity' in theorising space with alienation and de-alienation enhances the reinterpretation of spaces for resistance and change (Figure 1). Performativity is being in the process of seeking; on one side it includes alienation as obedience, and on the other side it includes de-alienation as resistance and as an act of constituting and reconstituting the self within society.

Various concepts have emerged to help understand the body as a spatial and political becoming, but among these performativity is the most helpful for understanding the body, space and action in a unity, so redefine overcoming alienation. The body that performs identities and social norms is the body that is situated in the geography and materiality of history. While the community of Tuzluçayır struggled for a better future, building home became the performative face of this process. Performativity refers to a complex, nonlinear process of which alienation and overcoming alienation are a part. However, although the human is characterised by complex operations, Bloch claims that there are basic drives which emerge at different times and under different conditions in history. These basic drives are the body, time and collectivity.[18] In the narrative of the informal urbanisation of Tuzluçayır, the body and collectivity can be glimpsed, and these features of becoming in performance of housing leaded to 'overcome spatial alienation'.

CONCLUSION

As one of the most fashionable concepts of the late twentieth century, the term 'alienation' has been overused, but it was a striking critique pertaining to the body that emerged from 1960s architecture. The 1960s marks a shift in world systems, and one of its manifestations is the urban crisis. Hence, as a global turning point characterised by resistance and crisis, the 1960s makes an appropriate departure point for remapping theories on the body as a political and spatial agent. From the Hegelian roots of the term alienation, it could be claimed that the Marxist conceptualisation of alienation highlights processes of production. But how it manipulates or orders the body in processes could be developed through the notion of performativity. The alienated and de-alienated body could be defined as a becoming who performs social spaces. Performativity posits these processes as a complex of drives.

And what leads to overcoming alienation is the basic operations in this complex: the body, time and collectivity. The marginal history of Tuzluçayır overlaps these conceptualisations. The social history of informal housing in Tuzluçayır in the 1970s shows that overcoming urban alienation was possible through a production process in which bodily and collective experiences broke socioeconomic processes.

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THE SOCIAL PERCEPTION (AND CONSTRUCTION) OF SPACE: ASSESSING THE SOCIO-ENVIRONMENTAL IMPACTS OF URBAN DEVELOPMENT PROJECTS.

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INTRODUCTION AND AIMS

Since the 1970s, residential tourism has been the leading model of tourist development in Spain. This has been widely challenged in the academic world, since its basic features have more to do with city planning and the property market than with tourism *per se* (Aledo, A. 2008; Girard & Gartner 1993; Tur & Martinez 2005). In recent years the model has evolved gradually to embrace certain features of 'sustainable development,' and a 'new residential tourism' has arisen which is more respectful towards environmental considerations, less densely constructed and more hotel-based, but at the same time more elitist and more extensive, i.e., requiring more land for building. The typical tourist-urban development project based on this new model is destined for coastal areas: it includes low-density housing (up to four dwellings per hectare), four- or five-star hotels and at least one gold course. This represents a cluster of activities (hotels, building and sport) articulated around the prestige or status represented by golf, since the golf course adds value to both the land and the hotels. Marinas are also built in these areas, with the same social-symbolic signifier of prestige, and similarly linked to the concept of 'tourist and environmental quality,' which since 2000 has habitually featured in municipal city planning and development programmes (Amelung & Viner 2006; H. Briassoulis 2007; Helen Briassoulis 2011).

This new model, increasingly present on the Spanish coast since the 1990s and the turn of the century, has also been widely disputed. Criticism has mainly focused on its distortion of the concept of sustainability, i.e. that in the environmental sphere, its impacts are still unacceptable; in the economic, its profitability and structuring capacity are doubtful (compared with other alternatives for strategic management of affected areas); in the political, it suffers from a deep democratic deficit, often including legally suspect links between developers and politicians; and in the social, it worsens inequality and creates a dynamic which separates the population from its traditional territory and culture. Despite this, the regional and municipal governments in charge of urban planning have generally supported these initiatives, arguing that they yield benefits in the areas of tourist trade profitability, de-seasoning, sustainability and landscaping (Dominguez 2008).

Almost simultaneously with the evolving complexity of the concept of the environment, a concern with the impacts of human activity on it has arisen. Thus since the 1970s academic production in the area of socio-environmental impact assessment has expanded, though this has been reflected only very unevenly across the world in terms of regulations committing projects to respect SEIA recommendations (Albergaria & Fidelis 2006; Becker & Vanclay 2006). Throughout these developments an unresolved structural concern has persisted, i.e. that the socio-cultural and political aspects of socio-environmental impact assessments (SEIA) are still clearly neglected. Further, these socio-cultural and political aspects often condition the understanding and consideration of the other risks and impacts involved. Thus they are the most important for a true risk and impact assessment.

In the area of social risks and impacts, the way that social actors perceive their environment is key. The environment is socially constructed, and the position of each actor in the social network has a bearing on how it is constructed. Thus in this paper we offer some research findings demonstrating the importance, for both the environment and the project, of a proper social analysis in the assessment of

the social impacts of tourist-urban development projects. Understanding how the actors interpret/ construct their environment is the key to including an awareness of their positions in the project design, thereby making it more democratic, ethical and economically sustainable.

THEORETICAL PREAMBLE

An urban development project can be defined as an initiative undertaken by one or more social actors aimed at altering the socio-environmental situation in a specific local context. The project developers design and execute it according to criteria consistent with their perceptions, interpretations and positions in relation to the context; and their criteria do not necessarily coincide with those of the other local social actors. Thus the context of the project's implementation is not restricted to the biophysical environment but also includes the social actors, principally those linked in some way to the project (interested and affected parties, etc.) (Anzoise 2017; Principles & Assessment 2004).

The main argument of this paper is the following: that determining stakeholders' interpretations of their context (including the project itself) is fundamental to improving the sustainability of development projects. Thus, in the light of the above definition of an urban development project, and in line with the central argument of this paper, we can establish some theoretical coordinates which will help to structure our analysis, namely social constructionism, stakeholder theory and actor-network theory.

Briefly, social constructionism (Berger & Luckmann 1991) is a classical sociological theory which, when applied to the present object of study, argues for the relativism of socio-environmental reality; i.e. each social actor perceives and interprets their environment (both physical and socio-cultural) in line with their own position in this environment. This presupposes that the relationship between the actor and the environment (which includes other social actors and their relationships) is particular to each actor. It also assumes that, given the dynamic nature of social relations, the actors' interpretations can change. Thus a development project promoted by one or more actors sets in motion a chain-reaction of changes in the way all the other actors see and interpret the social and environmental features of the area affected by the project.

The network-like structure of contemporary society has increased the relevance of constructivist theory. According to actor-network theory (Latour, B. 2007), both social (actors and their relations) and physical elements of a network constantly interact and redefine their positions. Particular development projects will be interpreted in different ways according to the actors directly and indirectly involved in them. The development of a specific plot of land (a physical element), for example, forming part of a wider project, can be interpreted as 'an environmental aggression,' 'a loss of traditional economic resources,' 'a medium-term investment,' or as 'a necessary evil in favour of a better future,' depending on the actor. As the project progresses, and according to the way relationships between the actors develop, new interpretations appear: the owners of plots that are not affected, seeing substantial short-term profits for other actors, may assess the project negatively, but for different reasons than those put forward by non-land-owning actors, etc. Also, the landowners who have made these fast gains may also, in time, come to judge their decision to sell negatively, if their new investments do not develop as foreseen, or if their new situation leads them to hanker for the previous one.

The concept of the stakeholder, within the constructivist approach to socio-environmental reality, affords a focus on the self-interest of each actor in relation to the project. It also offers a view of the project as a new element of the social network, in the light of which the new dynamic it creates is evaluated. Stakeholder theory (Rowley 1997) contributes an interesting political nuance to our theoretical framework, foregrounding power relations. Each stakeholder (SH from here on) initially positions him/herself towards the project according to a starting point in her/his interpretations of it and of the socio-environmental context, including the other SH, their relations between each other, and the biophysical environment. Every decision taken by an SH, especially by the project developers, modifies the network anew, and thereby the other SHs' positions and their interpretations of its other elements.

Social constructionism, actor-network theory and stakeholder theory are sociological approaches widely used in a whole range of fields of knowledge production. Also, on a more specific level and closer to the subject of this study, social or sociological interpretations are on the increase in analyses

of landscape and urban planning and land use change (Sairinen 2004). These studies in particular show the importance of taking different social perceptions into account and their usefulness in land and landscape planning and management (Anzoise 2017; Auken 2009). All this research shares the theoretical assumption that physical reality is a reflection of social action, and that the latter is the product of tensions between the differing perspectives of stakeholders (Cheung & Leung 2012). Yet more specifically, a productive political debate around the topic of 'landscape governance' has arisen among academic specialists (Beunen & Opdam 2011; Bodin & Crona 2009). Social participation in decision-making on urban expansion and changes in land use has become a highly transversal subject (Carpini, Cook, & Jacobs 2004).

While urban planning is gradually absorbing these ideas, there is still much ground to cover. As is usually the case, academic ideas and analyses are in advance of everyday social reality. Even when regulations recognize the land or landscape involved in a planning initiative as democratic entities, empirical findings show clear inconsistencies between theory and practice, even between theory and the laws applied in each context. Planning, supposedly, seeks general well-being, the common good, sustainable development, etc., and therefore on paper it recognizes both the importance of social actors in the management of space and the city and the need for actors to participate in project development; however, in practice, social actors are more often treated as outsiders, due to the high level of abstraction and the vagueness with which projects refer to them (Butler 2014).

CASE STUDY

Here we present some findings of a study which set out to assess the socio-environmental impacts of a golf-based tourism development project (golf-based project, GBP from here on). As we remarked above, the decade from 1997 to 2007 saw unprecedented growth in the Spanish property sector, with residential and hotel complexes including one or more golf courses as the star products in coastal areas. Many towns and cities opted for this model of territorial development, but without any proper environmental and socio-economic planning. Hence during the crisis years these GBPs were seriously challenged for a wide variety of reasons: their negative impacts on the environment; the economic dependence created by exclusive reliance on the property sector; corruption; the deterioration of local cultures; and socio-economic discrimination and polarization on a local level (Aledo, A. 2008; Antonio Aledo, Jens Kr. Steen Jacobsen, & Leif Selstad 2012; Jacobsen 2000).

The case that we take as a model here, the El Rompido Golf Project, is located in the protected natural area of Cartaya in the Province of Huelva in south-west Spain. It features two golf courses with a total of 36 holes over 50 hectares, in addition to a 4-star hotel and aparthotel development, a luxury housing estate and private sports and leisure facilities.

Cartaya, with 19,168 inhabitants, has become one of the most economically and socio-politically important towns in Huelva, mainly due to agro-industrial growth, increasing its population by 29.8% in the last decade with the arrival of workers from the Maghreb, sub-Saharan Africa and Eastern Europe (IECA 2014). Also within the municipal borders is El Rompido, a small coastal fishing village which had earlier seen sun-and-sand tourism development. In this area, tourism industry growth began in the second half of the 1990s, based on a high-status model with greater extension and lower density than previous projects, and GBPs were henceforth enshrined in Cartaya town council's General Urban Ordinance Plan as high quality, sustainable projects.

The two main golf-based projects in this area, El Rompido Golf and Nuevo Portil Golf, are officially designated as 'high-quality' tourism. They are located in idyllic natural surroundings and combine golf with low-density hotel and housing developments. Since the late 1990s they have represented a prototype for the expansion of golfing on the south coast of Spain, a model advocated by developers and political institutions alike as an innovative development strategy capable of diversifying and de-seasoning the tourism industry (Villar-Lama, A. 2012).

METHODS

The socio-environmental impact assessment of this GBP was designed to mix both qualitative and quantitative techniques. The methodological phases may be summarized as follows: (1) investigating context; (2) investigating the project; (3) identifying and evaluating SH; (4) identifying and evaluating

impacts. In the table below the research techniques used are summarized and the partial outputs of each phase are shown.

Table 1. Complete summary of the project methodology.

	Phase 1: Context	Phase 2: Project	Phase 3: Actors	Phase 4: Impacts
Research sources and techniques	Secondary sources Specialised literature	Consultation with experts / academics (15 cases) Semi-structured interviews (26 cases)	Consultation with experts / academics Semi-structured interviews	Survey (204 cases) Analysis of social networks Focus group Multicriterion analysis
Sub-products	List of context indicators	Overall list of impacts	List of SH (18) Views of each SH	List of impacts according to SH Overall prioritised list of impacts

In this study we present some findings from phases 3 and 4, in particular some of the data collected from the semi-structured interviews and the survey of the local population.

Thus, after consulting 15 experts (local academics from a range of different disciplines specialized in urban development, sustainability and tourism), 18 SH linked to the project were identified. Thereafter a total of 28 people representing these SH were localized, with each SH group represented by at least two people[i]. These representatives then participated in a semi-structured interview in two phases: 'actor assessment' followed by 'impact assessment.' In this way the semi-structured interviews yielded data suitable for both qualitative and statistical analysis.

In addition a CATI+CAWI survey was administered among the population of El Rompido village, on the basis of a sample of 202 cases (N=1433) with a 95% confidence level and a 6% maximum margin of error. Informants were asked for their sociodemographic data, and then requested to evaluate the impacts of the GBPs on the area. The list of impacts to be evaluated was obtained from the 20 impacts most frequently cited in the semi-structured SH interviews. The evaluation criteria centred on whether the impact was positive or negative, its intensity and time (speed and reversibility of the changes).

RESULTS

The basic descriptive data resulting from the survey of the population showed that 46.6% did not feel benefited by the tourist-urban expansion (Graph 1). The average score only reached 4.01 points out of 10 (see Table 2). The argument of the 'common good,' of the benefits to the community of a high-quality, sustainable tourist development, was key to the promotion of the model, as we remarked above. It was staunchly defended by local government and developers, but the figures show that it was not endorsed by the population.

The dominant actors' developmentalist discourse had been absorbed by the population, but only on a symbolic and general level. In *Figure 2* we can see this positive vision of the 'common good,' but when contrasted with first-person references (*Figure 1*), we see the contradiction between the two results. In other words, the population's general feeling about GBPs can be described as positive, consistent with the most influential actors' discourse. We find precisely the opposite, however, in the local people's perceptions of their own benefit.

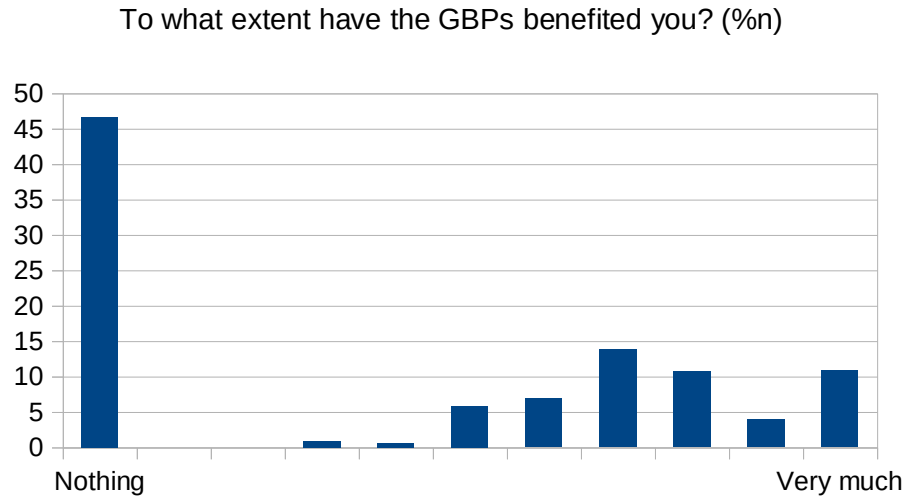

Figure 1

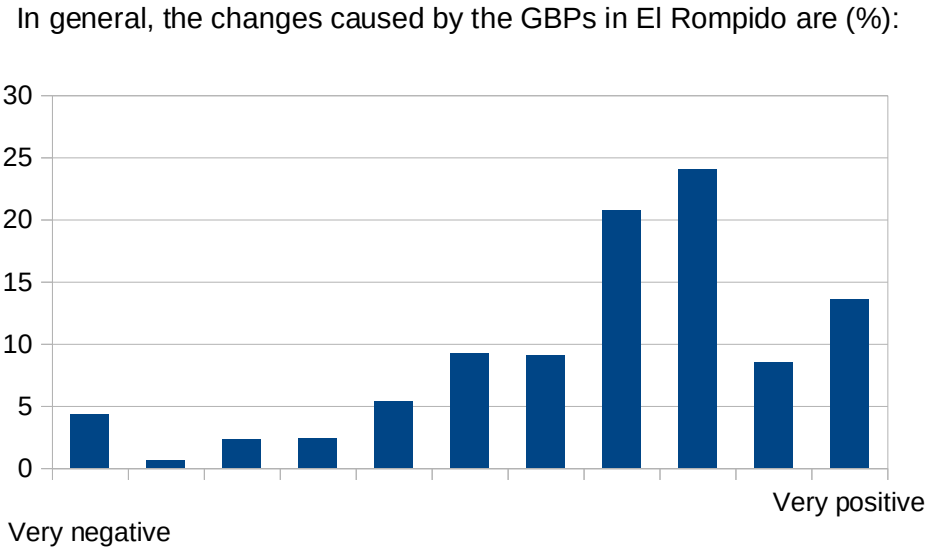

Figure 2

When we examine the statistics (see Table 2), the low perception of personal benefit (an average score of 4.01 out of 10) coincides with the strong dispersion of scores (standard deviation 3.96). This would suggest that there is one part of the population declaring itself to have benefited highly and another that has not benefited at all. Further, the changes caused by the GBPs are seen by the population in general as large (6.83) and fast (6.45), but the clearest agreement in seen in the perception of their irreversibility: the average score is almost 9 out of 10 (8.85).

Table 2

		(1) To what extent have you been benefited?	(2) Are the changes very negative or very positive? (0-10)		(3) Are the changes very weak or strong? (0-10)	(4) Have the changes been very slow or very fast? (0-10)	(5) Will El Rompido recover its original state (0) or has it changed permanently (10)?	
N	Valid	198	200		199	200		200
	Lost	6	4		5	4		4
Average		4.01	6.83		6.60	6.45	8.85	
Standard deviation		3.964	2.459		2.110	2.173	1.778	
Percentiles	25	0.00	6.00		5.00	5.00		8.00
	50	5.00	7.00		7.00	7.00		10.00
	75	8.00	8.00		8.00	8.00		10.00

Original survey questions:
(1) To what extent have YOU PERSONALLY been benefited (by the urban-tourist expansion)? (1-10)
(2) In general, are the changes created by the tourist projects (golf courses, hotels and housing developments) in El Rompido (NOT WITH REGARD TO YOURSELF, BUT FOR THE TOWN AS A WHOLE) (very negative 0 – very positive 10)?
(3) In general, are the changes created by the tourist projects (golf courses, hotels and housing developments) in El Rompido (NOT WITH REGARD TO YOURSELF, BUT FOR THE TOWN AS A WHOLE) (very strong 0 – very weak 10)?
(4) In general, are the changes created by the tourist projects (golf courses, hotels and housing developments) in El Rompido (NOT WITH REGARD TO YOURSELF, BUT FOR THE TOWN AS A WHOLE) (very slow 0 – very fast 10)?
(5) In general, would you say that El Rompido will completely recover its original state, as it was before the projects and the arrival of more tourists (0), or has it changed permanently (10)?

This hypothesis of polarized benefits was compared with the degree of influence that SH could exercise on decisions affecting the GBPs. Thus we selected the extreme scores from the non-influential/ influential scale (0 = with no influence, 10 = highly influential), using the SH sorted into the 1st quartile (scores below 25% of the distribution) and the 4th quartile (above 75%) respectively.

Table 3

	Harm – Benef.	Influenc.
NI Non-Golf Tourists	6,49	1,65
NI Golf and Hotel Staff	9,25	2,65
NI Seasonal Res.	6,92	2,48
NI Hunt. & Sports. Assoc.	4,85	1,76
NI Res. Assoc.	6,45	2,82
NI Farmers	5	2,46
I Developers	9,42	8,17
I Hotels	9,13	8,42
I Council	9,46	9,04
I Reg. Admin.	8,5	8,73

In the light of the data, we can see in *Table 3* that among the NI SH (non-influential SH) there was a wide spread of scores in the harm – benefit scale (distribution range = 4.4). Among I SH (influential SH), on the other hand, there was much less variability (range = 0.96) and the scores were noticeably higher. In other words, the most influential SH were at the same time those who perceived themselves to have been most benefited by the tourist-urban expansion caused by the GBPs. Hunters, farmers and local residents' associations were the SH who were furthest from decision-making on the projects, and at the same time those who benefit least from them.

The qualitative phase of the analysis provided the necessary clarification of these figures. The impacts defined by the 18 SH were characterized by their high number (around 240), the wide diversity of areas they affected (we grouped them into a total of 40 areas), and for their effects on every single dimension of the environment (understanding the environment in its broad, contemporary sense: in this case the biophysical, territorial, demographic, economic, social and cultural dimensions). The actors with the most influence on decision-making in urban growth exhibited a classical developmentalist discourse centred on positive impacts: tourist quality, infrastructures, environmental improvement, economic growth, employment, tourist publicity for the town, de-seasoning, etc., were some of the most frequently mentioned arguments. The negative arguments (deforestation, local price rises, that the model was foreign to the local context, etc.) were defined as 'external' to the model.

The least influential actors, coinciding with those least benefited by the model, had a much denser and more complex discourse, with arguments centring on the negative impacts and the loss of opportunity which the GBPs had represented for the area: loss of traditional values and local 'charm,' environmental aggression, the reduction of traditional economic activities, profits for the few, little or no positive effects in the local productive fabric, scarcity and poor quality of the employment created, etc.

DISCUSSION AND CONCLUSIONS

Democratic, sustainable planning requires local SH analysis prior to the design of an urban development project. The data resulting from this case study illustrates the diversity of SH linked to these projects (Byrd, Bosley, & Dronberger 2009; Hossain, Alam, Islam, & Hecimovic 2015) and shows how SH perceptions affect the sustainability of the project, particularly when many of the actors involved or affected see them as alien, as affecting them negatively or when they simply feel discriminated against since no one consulted them when their home surroundings were reshaped. We should understand 'sustainability' as multi-dimensional: from the socio-environmental and territorial point of view, changes in land use create impacts which are assessed differently, sometimes in opposing ways, according to the SH whose discourse is analysed.

We wish to stress here particularly that differences in power and influence in decision-making correspond to major differences in group discourses, which reflect interpretations of space and day-to-day interactions with it. We have seen that the most influential SH were also those who benefited most from a development model which was consistent with their vision and interpretation of the environment. On the other hand, the least influential SH were those who were least benefited and also those who mainly stressed the negative impacts of the GBPs. These findings clearly illustrate the deficiencies in ethics and good governance exhibited by these projects and, by extension, the model of territorial planning they represent (Aledo, Garcia-Andreu, & Ortiz 2007; Beunen & Opdam 2011).

Socio-environmental risk and impact assessments have been found to be important tools in ameliorating these deficiencies (Aledo-Tur & Domínguez-Gómez 2017; Khodyakov, Mikesell, Schraiber, Booth, & Bromley 2016). SEIA methods can clearly reveal the complexity of the local context, the object of planning; they can analyse in depth and to a fine degree of detail the different elements making up the context; and they can facilitate processes of participation and the management of governance. The local network of socio-environmental interaction needs to be analysed in detail in order to determine how each node relates to the others, to understand the nature of these interactions and to set up mechanisms for identifying changes in the network (Duim, Ren, & Jóhannesson 2013; Meagher & Wilson 2002).

The case study we have set out here is an example of this complexity and multi-dimensionality and demonstrates the need for trans-disciplinarity in approaches and mixed methods in analysis and assessment. Although it is a case lacking in social conflict (the main source of dynamism, complexity and difficulty in the design and carrying out of projects), it clearly evidences the multitude of interested and involved SH, their diversity of positions, etc. The GBPs in the area currently suffer from a lack of positive relationship with the locale and the community, and this affects their social legitimacy and that of the SH who made the decisions in the design and execution phases. The general local community feeling is reflected in dense discourses, clearly expounded and justified with specific examples of the phenomena and processes affected by the GBPs, which have not shown themselves to be the model of 'sustainable development,' 'good for everyone,' that the decision-makers promised at the end of the 1990s.

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[i] The representatives of two of the SH groups declined to take part in the study.

'I'M SORRY FOR THE DIRECTION MY HOT-AIR BALLOON IS TAKING': IN SEARCH OF EVIDENCE FOR AND IMPACTS OF TERRITORIAL STIGMATISATION.

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INTRODUCTION

This paper critically engages with the concept of territorial stigmatization. This concept has enjoyed considerable academic attention in recent years through the work of Loic Wacquant[1] which forms the theoretical framework for this paper. However, the paper also reflects on what can be seen as earlier version of this type of theoretical approach[2] as well as other contemporary applications[3]. Having critically examined the theoretical basis and reach of this concept the paper proceeds to report on data generated from a series of in-depth, qualitative interviews conducted with residents of a large, peripheral predominantly social housing estate in the Thames Valley. The paper demonstrates that residents can provide detailed and long-term understandings of how and why the area they live in (and they themselves) has been territorially stigmatized and provide numerous examples of how this impacts on their lives. However, the paper also presents data that demonstrate that residents' readings of their own lives, where they live, their neighbours and communities are frequently more nuanced, multi-layered and complex than other research sometimes suggests. Participants do discuss the issues that they feel directly affect them and their families, friends and communities but this data does not suggest that residents accept the ways in which the area and they themselves are portrayed and, indeed, they present multiple counter-narratives that dispute the validity of the territorial stigmatisation of the area. In this case a large social housing estate located on the periphery of Oxford: Blackbird Leys and Greater Leys or 'The Leys' as it is now known locally and how it will be referred to throughout this study. The area is home to 13,500 residents and would be the eighth most populous town in Oxfordshire if it was a separate development instead of a peripheral housing estate on the edge of the city. This area has experienced a long-history of territorial stigmatisation, poor reputation and negative associations in Oxford, the wider region, nationally and even internationally on occasion. In relation to the theme of this conference - on whether or not the future city can be made liveable the paper raises questions regarding the extent to which present, let alone future cities, are truly liveable for large numbers of citizens as well as illustrating how cities can be divided in multiple ways.

METHOD

The study has developed out of a long-term engagement with an area of Oxford over the last twenty five year and the paper presents an analysis of data drawn from twenty in-depth interviews with residents as well as additional ethnographic material gathered during that twenty five years of experience of working on and around the Leys in a variety of capacities: as a social researcher, as a director and trustee of two drugs intervention providers, a founding director of a community development initiative and as a member of various bodies, boards and advisory groups that have worked on regeneration and community development plans for the estate[4].

This particular aspect of my research has been shaped by three main research questions and these are: First, to what extent do people who live in an area of large social housing provision experience 'territorial stigmatisation'? Second, how do people narrate their experiences of territorial stigmatisation and how do they account for the impact on their day-to-day lives? Finally, to what

extent do residents present counter narratives and discourses that provide alternative readings of the experiences of living in a territorially stigmatised area? It should be noted, of course, that given the word length of this paper my reflections here represent only a summary of some key aspects of my research.

CONCEPTUALISING TERRITORIAL STIGMATISATION.

In recent years the notion of territorial stigmatization has become most readily associated with a series of works developed by Loic Wacquant[5] and is currently enjoying considerable popularity as a theoretical approach in urban sociology and other related disciplines[6]. However, the significance of stigmatisation (and other synonyms) in relation to the description and analysis of forms of social and spatial divisions in cities has been a recurrent theme in urban sociology since at least the time of the Chicago School[7] and the lineage of this concept can be traced, on and off, through to the contemporary social theory. Thus, to name but a few, Foucault,[8] for example, talked of 'heterotopias of deviation, Krase[9] wrote about the 'stigmata' on inner city living and Damer utilizes this approach in his studies of 'wine alley' and Edinburgh and he notes:

> It is alleged that it is the lack of 'defensive space' on the deck-access walkways which causes the problem. This, in the orthodoxy leads housewives to become Valium junkies and prostitutes, toddlers to hurl themselves from the balconies, and teenage boys to turn to generalized mugging and raping.[10]

Lynch notes the representational importance of areas of spatial stigmatisation as he notes how they are a consistent and recurrent feature of the public image of cities when he states.

> There seems to be a public image of any given city which is the overlap of many individual images. Or perhaps there is a series of public images, each held by some significant number of citizens. Such group images are necessary if an individual is to operate successfully within his environment and to cooperate with his fellows. Each individual picture is unique, approximates the public image, which in different environments, is more or less compelling, more or less embracing.[11]

An approach echoed by more recently by Hastings and Dean when they state 'every city and town in the UK has neighbourhoods which have reputations for problems such as poverty, crime, drug abuse or physical decay'[12]. For others the use of terms such as 'stigmatisaton' can be seen as a contributing element of the on-going and peristent use of pathologising discourses in relation to analysis of spatial inequalities and area deprivation, along with those who live there.[13] For Atkinson and Jacobs[14] residents are of such areas become 'thrice damned' by space, place and politics. For Skeggs[15], the conceptualisation of localities as stigmatised (and stigmatising) is linked to a wider process of the representation of the working-class as a fixed and problematic social category across a powerful conglomeration of symbolic systems, government rhetoric, institutionalised practices, popular and academic representations.

DIMENSIONS OF TERRITORIAL STIGMATISATION

I am not trying to argue that the ideas raised above and the approach of Wacquant are reducible to a relatively simple continuum; indeed many aspects of Wacquant's approach offer new theoretical and empirical detail. Specifically, Wacquant seeks to link localized territorial stigmatization to structural economic and political factors whilst detailing the different manifestations of this process in France and the USA. This he identifies a 'new regime of marginality on both sides of the Atlantic' that result in distinctive spatial properties that manifest as concentrations of social and economic deprivation in isolated and bounded territories as neighbourhoods of relegation'[16]. In this analysis, under the duel pressures of a functional disconnection from macro-economic trends and the deregulation and degradation of wage labour, territorial stigmatisation becomes concentrated in specific (and named) isolated and bounded territories rather than across throughout working-class areas. In addition, the

experience of territorial alienation and the dissolution of place through which marginalised groups and individuals experience the loss of a locality which they can identify with and feel secure in. Furthermore the loss of what Wacquant terms as a 'hinterland' also impacts on the sense of this loss and sense of security through the erosion of traditional social networks and support that might once have been found in 'traditional' working-class areas. This symbolic fragmentation results in the further loss of a shared frame of reference and language that might have once provided a source of resistance to the collective problem of marginalization[17]. Wacquant identifies five specific factors that characterise territorially stigmatised areas both side of the the Atlantic. These are a peripheral location; isolation, entrenched social and economic deprivation, an absence of economic infrastructure and the existence of historical stigmatisation. In ways not disimilar to Lynch[18] noted above he concludes:

> In every metropolis of the First World, one or more towns, districts or concentrations of public housing are publicly known and recognised as those urban hellholes in which violence, vice, and dereliction are the order of things. Some even acquire the status of national eponym for all the evils and dangers now believed to afflict the dualized city.[19]

At the level of the community and the individual the impact of these developments manifest as defeated, internalised, alienated and fatalistic characteristics in the residents of these stigmatised areas[20] and in the case of the UK Wacquant identifies Toxteth, Saint Pauls, Bristol, the Meadowell, Newcastle as specific (but not exclusive) examples of areas of territorial stigmatisation[21]. In the next section of this paper I aim to breifly examine whether these characteristics can be identified and mapped within a specific location that whilst fitting Wacquant's five chararcteristics of territorial stigmatization and what residents of this area report of their own experiences of living in a territorially stigmatised locality.

THEMES FROM THE DATA

In this section of the paper I briefly report on and illustrate some of the key themes from the data generated by my research and how these compare with Wacquant's accounts of territorial stigmatisation. Participants did report that they are aware of how the area they lie in is stigmatised as noted in the two following examples.

> I mean, the general reaction of people when I tell them I'm from the Leys is sort of almost fear I suppose, from people, unless they're from sort of Barton, Rose Hill, one of the other estates or anything. (Will).

> I think they (people who live in other parts of Oxford) think it's [um] a crowded slum, or a forest of high rise towers (There are two). Neither of which is even remotely near the truth. I think they think it's a crime hotspot and a dangerous area. I'm very sure they think it's a dangerous area. But yes, there is that ignorance. It's partly the geography that Blackbird Leys is out on the periphery and there are no through roads. It's conveniently out of the way. (Mike).

In addition, as Mike notes, the peripheral and 'out of the way' location of the estate helps cement the imagined conditions on the estate. Furthermore, participants report on how non-residents claim to avoid the area because of its reputation. The power of this reputation extends to the response of a hot-air balloon pilot that inspired this paper's title as reported by Ella below.

> I went for a balloon flight once on my fortieth birthday and the man, the pilot of the balloon apologised when here realised we were coming over to Blackbird Leys, which was really funny actually because I was so pleased, right. I saw my friends, my neighbours, and he really enjoyed it in the end, because we were waving, and you know, shouting hello to people and it was great fun. (Ella).

Another participant, Ulla, emphasizes the way in which the area has become a functional site of relegation when she states:

> I think that ties in perfectly with the idea that, yes, we know where the drug dealers are, and that's it, we know, are we going to do anything about it? No, we know where they are, so that's fine, and if they're on Blackbird Leys we at least we know where they are. (Ulla).

A view echoed and reinforced, in relation to the view of service providers and the local authority by Les when he comments on the attitudes of some members of the city council.

> When people from Oxford City Council come and sort of look at the community centre and say the only thing we can do really is to pull it down and put on a supermarket for the people here, then I think its' absolutely awful, and ignorant, and treating people like second class. (Les).

Other participants report on how significant they feel the impact of being from the area has on their life chances. For Ella, f or example, possessing a Leys residential address potentially limits her employment prospects.

> I know when I put on a CV where I live I don't put Blackbird Leys or Greater Leys, because I know there's a reputation. Unless I'm applying for a job really close by, like say Cowley Centre or the Retail Park. I won't out I live on Blackbird Leys or Greater Leys,

Furthermore, Liz notes that even when positive developments – on this case the creation of a Women's Business Network – happen they are met with considerable stereotyped derision from residents of other parts of the city.

> We had an article about Women's Business Network. So I was looking in the Oxford Mail and I was looking at the article on the Oxford Mail website and the comments, and the only comments was somebody saying, "Women's Business Network on Blackbird Leys. What's that about cutting up Charlie and making it go further?" (Liz).

However, throughout the data I have collected residents report on highly positive experiences of living where they do. These include multiple community strengths, neighbourly co-operation, individual and collective resistance and social value. Clearly there is not enough space here to justice to these counter-narratives and experiences but they are summed up forcefully by Iz below:

> I've lived in Blackbird Leys and never had a break-in, never had anything stolen. Most people I know in Cowley have had their cars broken into, had all sorts of issues, and when I've lived up on the estate, in both Blackbird Leys and Greater Leys there's never been an issue in my life or the people closely connected to or around me. (Iz).

CONCLUSION

It would seem that aspects of Wacquant's arguments can be identified in regard to the area of the Leys and in the experiences of those who live there. Residents do recognise that they and the area they live in are stigmatised and they identify a number of reasons for and agents of this stigmatisation. They articulate concerns that this process significantly impacts on them as individuals and the way others interact with them and they articulate concerns (and provide examples) of how this impacts on their life chances (for example in relation to education and employment), service provision, the attitudes of others and access to resources. In short the participants in this research recognise that they and their communities are seen as lacking of value, as underserving and as in this way the experiences of territorial stigmatisation both create and reinforce multiple barriers to social and economic inclusion.
Importantly, however, participants do not respond with passive acceptance nor do they appear to have internalised the views of others as suggested by Waqucant (and others). Indeed, they report on

community strengths, positive experiences accompanied by a knowing sense of how external (manufactured) territorial stigmatisation operates at various structural and social levels. As Joel notes, in the following quote that reflects both Lynch's (1960) and Wacquant's arguments about the social and political function existence of areas of 'relegation' that takes no account of the experiences and voices of those who live in such areas[22].

> … I think every English City has and possibly in other countries too, of you know, a mythical area where all the problems are. I think this is part of our, you know, mythology, cultures, way of seeing the world, that we are a city and we have our downtown area, our sort of troubled spots where no one goes. And in Oxford it must be Blackbird Leys. (Joel).

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CARE, PHYSICAL ENVIRONMENTS AND DEPENDENCY: THE DESIGN OF HOUSING FOR THE HIGH NEEDS ELDERLY TO LIVE INDEPENDENTLY

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INTRODUCTION

Globally, the ageing population is projected to increase rapidly. As people age, they have greater difficulty performing everyday tasks, as well as a higher prevalence of psychological concerns such as insecurity, loneliness and isolation[1]. At some point, typically in their 70s or later, these experiences induce them to seek a more suitable dwelling[2]. The New Zealand government policy is to encourage 'ageing in place'[34]. To successfully achieve ageing in place, which puts the focus on avoiding entering institutional residential care, housing for the elderly needs to provide an adequate environment for the provision of support and care. However, there is a scarcity of suitable independent housing options for the elderly who need assistance to live on their own in New Zealand[5].

Currently, there are three main types of housing which provide some levels of care and support; retirement villages, public-sector housing (central government housing and local council housing), and private-sector rental housing, which includes housing provided by community housing providers and various other groups. Retirement villages provide some levels of services and care as well as company and security, and are viable options for current homeowners and the relatively affluent. However, they are not viable options for those without substantive savings because the majority require some form of capital contribution[6]. 12% of those over 75 live in retirement villages, and the demand has been projected to increase at more than 2.5-time between 2014 and 2038[7].

Demand for rental housing for the elderly is also projected to increase. New Zealand will have increasing numbers of people getting into retirement that do not own a home[8], who cannot afford to live in retirement villages. Local authorities provide affordable housing and some of them provide social support for older people to live independently. Central government also provides affordable housing but mostly not with the support for older people to live independently. Of private-sector rental agencies, not-for-profit agencies have been withdrawing from the elderly's residential accommodation sector[9]. Shortages are currently reported in rental housing for the elderly in Auckland[10]. Recent government initiatives are seeking to address this situation, encouraging community housing sectors to grow[11].

AIM AND METHODS

The aim of this study is to research the current circumstances of housing for the elderly as a basis for its design, focusing on care, physical environments and residents' dependency, and to seek the requirements regarding them which result in the highest quality of life. While information on the

models of care and physical environments is publicly available on retirement villages, there is a scarcity of information on rental housing for the elderly. The dependency of residents in these types of housing was unknown.

Focusing on retirement villages and rental housing for the elderly in the Wellington region of New Zealand, data on models of care, physical environments and resident dependency were collected through two surveys for housing operators and for residents. Ethics approval was obtained from the Victoria University of Wellington Human Ethics Committee, for this study.

First, data on models of care and physical environments were collected using online questionnaire software from housing operators. 47 housing operators were invited and 24 participated. Next, the information on personal care was obtained through questionnaires from residents. The housing operators who participated the previous survey and were interested in the following survey were requested for permission for this survey. Residents who lived in housing operated by 12 operators participated.

For the analysis for this paper, the data were limited to those on housing whose response rates in the second survey were more than 35% (39-80%). Five retirement villages and rental housing operated by three private-sector housing operators were included. The public-sector housing was excluded because the sample size was too small. The data on each theme of the physical environments, models of care and residents' dependency were analysed, and the relationships between them were examined.

FINDINGS

The aim of this study is to research the current circumstances of housing for the elderly as a basis for its design,

1. Services and care for residents

Retirement villages often offer a continuum of care by providing different levels of services and care for residents in different types of units; independent-living units and assisted-living units. For the analysis of the services provided for residents, units in retirement villages were divided into these two types. Of five retirement villages, two included assisted-living units as well as independent-living units.

The services provided for residents were collected through questionnaire for housing operators focusing on; regular staff visits; organising activities in communal areas; outing (including shopping trips); transportation; emergency on call 24 hours a day; meals; laundry service; assistance in household tasks; shopping on behalf of residents; and personal care. To compare the levels of service, the services were given scores: 'provided without extra cost'=2, 'provided with extra cost'=1, 'not provided'=0. Each housing complex was given the 'service score,' which is the total score for 10 types of services.

The services for residents in retirement villages and private-sector rental housing were compared, in terms of the service score as shown in Table 1. Retirement villages provide much higher levels of care for residents than private-sector rental housing. Residents in assisted-living units are provided with higher levels of care than those in independent-living units.

Table 1. Average service score of housing sites

Retirement villages (5 sites)	**12.1**
Independent living units (5 sites)	10.8
Assisted living units (2 sites)	15.5
Private-sector rental housing (9 sites)	**3.5**

2. Physical environments

Each housing complex was classified into to two building types: detached/semi-detached type or apartment. The detached/semi-detached type includes villas, townhouses and flats which have only the access directly to outdoors. The apartment-type units refer to those which have access through indoor corridors. Assisted living units in retirement villages were all apartment-type, while other housing/unit types have both types. To compare between these two types, one rental housing which contained both types was regarded as two complexes in the analysis.

The data on proportion of units that have access and facilities for the disabled and the adjacent facilities are shown by the housing type and the building type in Table 2. Most units in retirement villages have access and facilities for the disabled. Particularly, all apartment-type units which participated in the survey had access and facilities for the disabled. As for private-sector rental housing, the proportion of units that have access and facilities for the disabled is lower than retirement villages. It is high in all apartment-type units, which is likely to be facilitated by the access through the internal corridors.

Retirement villages have a greater variety of adjacent facilities, while private-sector rental housing has fewer facilities, most of which included multi-purpose communal space. The adjacent facilities were distinguished by whether they are accessed going by internal corridor or only outdoors. All apartment-type units have access to facilities by going internal corridors as well as by going outdoors, while all detached/semi-detached units do not. The internal access between residents' units and facilities might be preferred by residents with limited mobility as well as by the staff, who wish to provide services and care for residents efficiently.

Table 2. Physical environments by the housing/unit type

Housing/unit type	Building type*	Average unit number **	Average proportion of units that have access and facilities for the disabled**	Adjacent facilities (excluding outdoor facilities) ****				
				Multi-purpose communal space	Specific-purpose recreational facilities	Religious facilities	Staff offices	Residential care facilities
Retirement villages, Independent living	Detached/ Semi-detached (4)	95 (14-196)	90% (47-100%)	O (100%)	O (50%)	O (25%)	O (100%)	O (100%)
	Apartment (3)	32 (20-47)	100% (100-100%)	I (100%)	O (33%) I (67%)	-	O (100%)	O (33%) I (67%)
Private-sector rental housing	Detached/ Semi-detached *** (9)	11.1 (7-29)	0% (0-0%)	O (50%)	-	O (50%)	O (50%)	-
	Apartment (2)	11 (10-12)	41.5 (0-83%)	I (100%)	-	I (50%)	I (50%)	-

* The bracket shows the number of housing sites. ** The bracket shows the range of the unit number.
**** O: Facilities accessed only going by outdoors, I: Facilities accessed going by internal corridors. Brackets shows the percentage of housing complexes that have the facilities.

3. Dependency of residents

Through questionnaires to residents, the data on the status of personal-care were collected for assistance in six types of daily activities: bathing, dressing, personal hygiene, moving from bed to wheelchair/chair, walking indoors and eating. To compare the levels of dependency, the assistance in

all activities were given the scores of 0-2 or 0-3 (0: the lowest level, 2 or 3: the highest level). Each person was given the 'dependency score,' the total scores for assistance in six types of activities.
The average dependency score of residents and the proportion of residents who receive personal care were compared between retirement villages and private-sector rental housing (Table 3). While the average dependency score is slightly higher in retirement villages, the proportion of personal care recipients is higher in rental housing. This implies that the elderly with higher levels of dependency are more likely to live in retirement villages than in rental housing. In retirement villages, both the average dependency score and the proportion of personal care recipients are much higher in assisted-living units than independent-living units.

Table 3. Average dependency score and proportion of residents who receive personal care

	Average dependency score of residents	Proportion of residents who receive personal care
Retirement villages (5 sites)	**0.93**	**15%**
Independent living units (5 sites)	0.42	12%
Assisted living units (2 sites)	2.19	50%
Private-sector rental housing (9 sites)	**0.86**	**19%**

The types of personal care

The data on status of personal care were compared between two groups with different levels of dependency; low levels (dependency score:1-3), and high levels (dependency score: 4 and over) (Figure 1). Of those with low levels of dependency, the proportion of people who receive assistance in bathing is the highest at over 60%, followed by in dressing and in personal hygiene at approximately 50% and 25% respectively. When the levels of dependency get higher, the assistance in moving from bed to chair/wheelchair and eating increases.

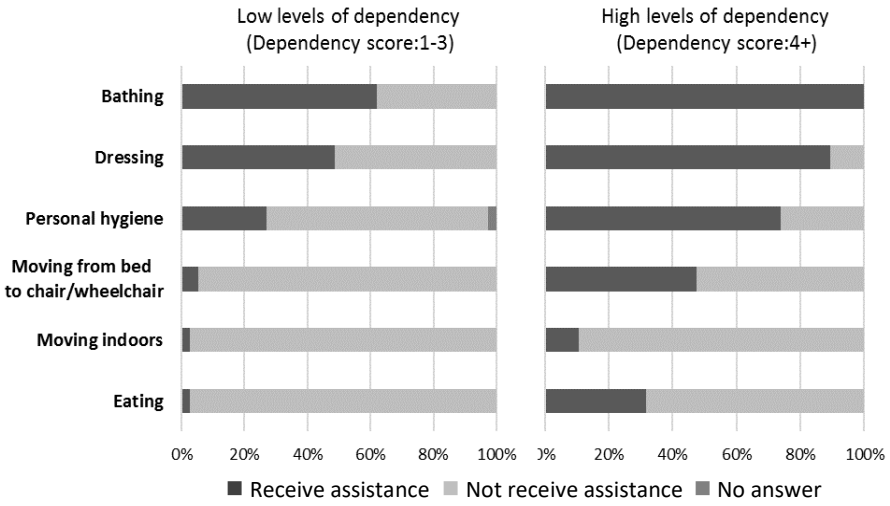

Figure 1. Types of personal care

4. Relationships between building types, levels of care and average levels of dependency of residents

The relationships between building types, levels of care and the average levels of dependency of residents were shown in Figure 2. The average dependency scores are highest assisted-living units in

retirement villages, where the service scores are also highest. The service score of private-sector rental housing is lowest; however, the dependency score varies from low to relatively high. With regard to building types, apartment types in each housing/unit type have the highest average dependency score of residents regardless of the service score, which implies that apartment types are likely to accommodate the higher levels of dependency than detached/semi-detached types.

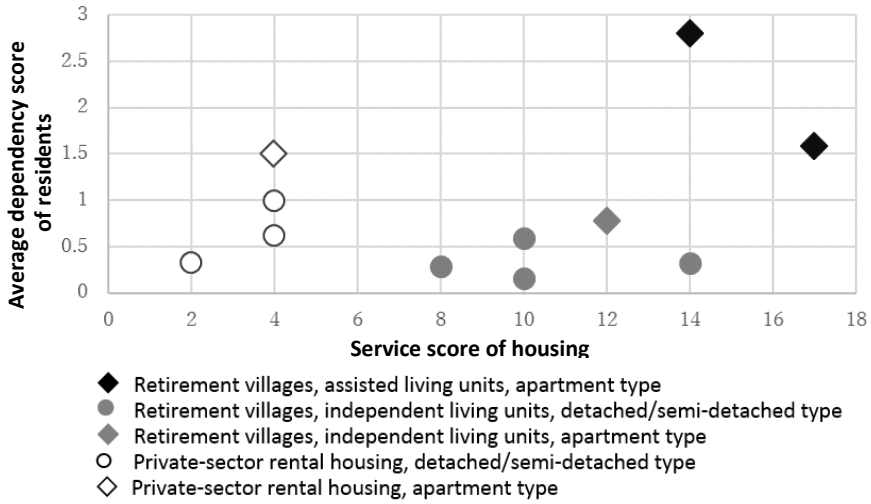

Figure 2. Relationships between building types, levels of care and dependency levels of residents

DISCUSSION

This paper has explored the models of care, the physical environments and residents' dependency in current housing for the elderly, through two surveys. In this section, the requirements for design of the housing to accommodate the dependent elderly to live with greater quality of life will be discussed.

The housing/unit type that accommodates those with highest levels of dependency is retirement village/assisted-living units, which provide residents with the highest levels of services and care, suitable environments for the disabled and the greatest variety of adjacent facilities. In private-sector rental housing, the levels of services are low; however, the proportion of residents who receive personal care was greater than in retirement villages. Not being provided with personal care by housing operators, these people receive care provided by external agencies. However, it has been revealed that this type of housing has failed to accommodate those with high levels of dependency, compared to retirement villages. To provide housing for high-dependency elderly to live independently, the optimal combination of models of care and physical environments should be well considered in the planning of the housing for the elderly. In the case of rental housing, there should be greater consideration for the ways to achieve it in limited resources, such as collaborating with service providers and using existing resources in the community.

The apartment-type housing, which provides internal access between residents' units and adjacent facilities, are more likely to accommodate those with higher levels of dependency than the detached/semi-detached type. It provides less mobile residents with the greater barrier-free environment and thereby the larger space for them to live in independently. This type also allows the staff office to be located proximately in the same building and helps the staff to provide flexible and efficient services and care for residents, which enhances the quality of care, one of the significant

elements for the quality of life of the dependent elderly[12][13]. In the design of the housing for the dependent elderly, care proximity should be considered as well as barrier-free environments.
In retirement villages, assisted-living units provide higher levels of care for those with high levels of dependency. However, it is reported that residents' quality of life are low in this type of units; residents perceived loss of privacy from care staff as well as neighbours[14]. Most dependent elderly require care in the most private activities, such as bathing and dressing. As the dependency levels increase, caregiver's visits become more frequent and may occur for the whole day; for example, they may need help when they get out of/go to bed and at each meal. It is reported that their privacy becomes ambiguous by caregiver's undesired presence in private space, by personal care being conducted in relatively public space and by the lack of space where they could be completely private[15][16]. In the design of housing for the elderly, attention should be paid to provide residents with appropriate privacy, while the availability and proximity of care is not undermined.

CONCLUSION

Having increasing demand for housing for the dependent elderly as background, the models of care, the physical environments and residents' dependency in current housing for the elderly has been explored through two questionnaires for operators and residents of retirement villages and private-sector rental housing for the elderly.
While the proportion of residents who receive care is higher in rental housing than in retirement villages, the levels of dependency of residents are lower in rental housing, which may attribute to the lower levels of services and care provided for residents. In the planning of the housing for the elderly, there should be greater consideration for the provision of care as well as suitable physical environments. It has been revealed that the apartment-type units accommodate those with high levels of dependency. This building type not only provides greater barrier-free environment and internal access between residents' units and facilities, which facilitates them to live in larger space independently, but also facilitates the staff to deliver greater services and care for residents efficiently. Attention should be given to strategies that maximise the availability and proximity of care to enhance the quality of care. Even those with lower levels of dependency require assistance in their most private activities and requirements for privacy become more complex as the levels of care increase. The design of housing, as seen in the apartment-type, assisted-living in retirement villages, has often failed to provide optimal privacy between residents and caregivers, which undermines their quality of life. Close attention to the balance between availability/proximity of care and reciprocal needs for privacy can provide the best outcomes.
This study didn't include public-sector rental housing for the elderly, which plays a significant role to provide rental housing for the elderly. Further study on the circumstances on this type of housing would serve to the comprehensive understanding of current housing for the elderly. Additionally, more detailed study on the elderly's experience, perceptions and expectations will bring important knowledge to the design of the desirable housing for the elderly that improve their quality of life.

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SUSTAINABLE SMALL HOUSE LIVING IN THE UK

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INTRODUCTION

Objectives: The argument

Part of the concern is we are living beyond our means in more ways than one, in the use of the resources on the planet and also our life styles. 2008 was the start of a dramatic recession which was brought about by living beyond our financial means. How to review this excessive life style and move to a more sustainable way of living in the twenty-first century that is to the betterment of all, will be under question.

It will be necessary to look at the way we have developed small house living through a historical perspective and how through necessity and in times of crisis small houses have developed and functioned. Additionally, I will look at how in the UK the demographics of the family has changed and how the Government has had to develop its housing strategy to apply to the shrinking size of the family and an ageing populous and how is this working towards the development of new small housing. Through independent research the existing housing stock of a sample people will be taken, what they are looking for when possibly downsizing their home and what possibly they require and see as important in a new low energy home.

A review of the traditional way of thinking and how the philosophy of '*keeping up with the Joneses*'[1] is fuelling the excess culture, will also be of focus in the latter part, and how we draw ourselves back from the brink and live a more compact life style and still be happy.

How can we achieve a low energy, small footprint home? Live comfortably without resorting to high embedded energy that blight today's current housing stock.

Historical back ground to small house living

This chapter will consider the historical back ground to small living looking at nomadic peoples, vernacular architecture and the introduction of industrial processes that led to the manufactured and factory constructed system buildings of today. The intention was to see how this progression of man in forms of shelter as the worlds populous expanded. The idea that man uses the indigenous materials available to him and using the resources carefully in a sustainable way as the nomadic peoples understood, allowed their way of life to continue through many generations. The size of their accommodation would be limited by what they could transport easily. The design of these shelters has changed little over the centuries.

The idea of a small footprint for a house has been seen as a frugal way of living and that the more you can afford, the house increases accordingly. This also applies to the materials available and the

vernacular houses were limited to size by the materials available and the skill and the knowledge of the builder.

The introduction of factory component building has led to many innovations in house design and materials used. One of which is the prefabricated house that has seen many developments and some of the variations are discussed in this paper.

The industrialization of Great Britain at a similar time of global expansion saw a massive influx of people from the country to the towns and cities that were springing up due to the expansion of mechanical processes. The mechanization of producing building products such as brick manufacture, and the ease of transportation on canal, rail and road led to the decline of the use of vernacular materials.

Since the 1860's the size of households has been reducing from 4.5 people to 3.9 in 1930 this dropped to 2.9 in 1971 and finally to 2.4 in 2001. This has also been reflected in the size of dwellings the average size of a dwelling since 1850 has steadily reduced to approximately 80 and 100 square meters.[2]

Figure 1. Terraced Housing built in the 1900's shown in the1960's[3]

Modern developments

The austerity after the Second World War led to a great need for new homes mainly for returning forces and replenish the bombed out houses of the towns and cities. This lead to the introduction of small prefabricated component dwellings, commonly and affectionately known as the "prefab". This housing form was designed using the technology from the factories producing armaments for the war effort. The use of aluminium is the primary material from aircraft manufacturing technology. This design was called the 'aluminium temporary', designed to be fixed in four sections it had all services and fittings incorporated in the design.

Figure 2. prefabricated house built using 'war' technology[4]

Other types of prefabrication designs were also developed using the industrial processes of the war machine, such as the use of concrete, steel, timber and asbestos.

Prefabs were aimed at families, and typically had an entrance hall, two bedrooms a bathroom (a novel innovation for many British families at that time), a separate toilet, a living room and an equipped kitchen. Most of these systems were never intended to provide permanent housing with an expected life span of 10 years. It was felt that, as after the First World War, there was a shortage of materials and of skilled workmen. A more urgent provision of housing needed to be made instead of the traditional building forms which the industry struggled to cope with. The answer was thought to be to supplement traditional building methods with industrialised building techniques - the use of factory methods to produce houses, large parts of which could be prefabricated in factories and then erected, using relatively unskilled labour, on the site. The result of this was that, all over the country, estates of "prefabs" appeared. The prefabs had a floor space of approximately 60 square metres. Generally set out on estates, these were to become a very much loved home and despite being originally designed as temporary accommodation, some still survive today. The idea of a detached home with a garden surrounding each unit provided an identity for the occupiers and a space to call their own.

Figure 3. Prefab owners fight to stay in their homes[5]

Today owner occupiers are reluctant to relinquish their homes but many UK councils are beginning to demolish the last surviving examples of World War II prefabs in order to comply with the UK government's Decent Home Standards.

Table 1. [6]Average sizes of dwellings post World War 2.

House	Average Area in Sq Metres
Post WW 2 Prefabricated house	60
Terrace house	80
Average Semi detached	100
Average Detached house	150
Average Flat	60
Average Bungalow	70

Western cultures divide up their families with a family consisting of parents and children, older members of the family are looked after by a welfare system when too old to look after themselves. Rooms became an issue with separate bedrooms and division of living accommodation western housing reflects this diversification. Space increased accordingly as more space was demanded, by the introduction of internal personal washing and toilets in bathrooms. Size of accommodation has remained steady in the UK since 1860's somewhere between 80 and 100 square metres. For terrace houses and semi detached, flats have remained at approximately 60 sq metres.[7] The idea that generally small houses are below 80 square metres but by enlarge this is arbitrary dependent how many people the house is designed for. But a four person family could easily live in this sized accommodation. While small houses are designed and constructed in times of depression, war and disaster to house a homeless or influx of humanity, there is a pressing need to consider the requirement for small houses in times of population decline and in the changes in the nuclear family. The average number of people living in a household in England and Wales is 2.36 in 2001, down from 2.51 in 1991.[8] This statistic from central government also goes to on to say that less than forty per cent of houses is lived in by nuclear family and thirty-five per cent are occupied by people living alone. The overall decline in occupants in homes in Europe at present is at 2.2 and falling. Should this decline continue a radical rethink of how house design is developed in the UK and Europe? There is an urgent need to review our design strategy of housing need in the UK and Europe if we are keeping up with the demographic requirements. There appears to be a need for well designed and modern small dwellings in all guises, generally due to the lack of building sites within the confines of the United Kingdom.

SUSTAINABLE SMALL HOUSE LIVING IN THE 21st CENTURY.

The changing demographics of the family are requiring a rethink of modern housing. Many more single people and one parent families are requiring their own homes, with the prospect of an ageing population requiring housing to suit their needs. Small succinct design is required to reduce the land requirement the idea is to have a site density of sixty houses per hectare.

Government Housing Policy

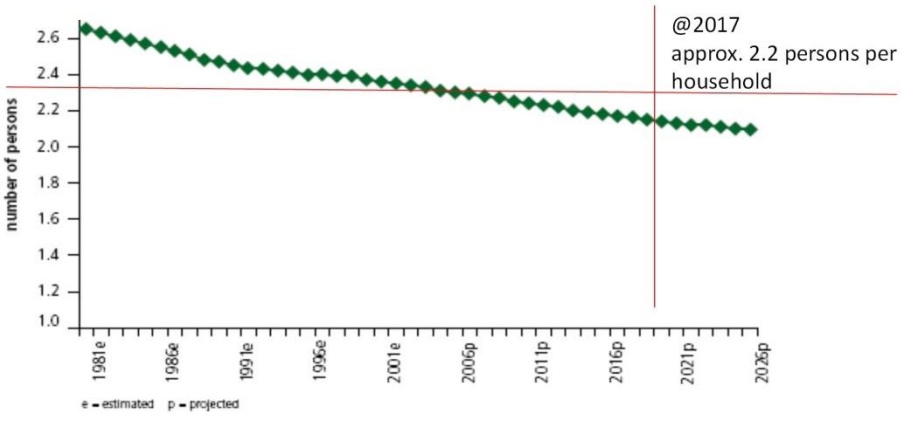
The breakdown of the nuclear family in the developed world is due to population movement, small family sizes and marital breakdown.

The need is developing for smaller dwellings for single people and couples. There is a requirement to make this 'affordable housing'. There is a pressure on countries to provide housing for its ever increasing populations, and in Britain's case, an immigrant influx. The Government has a structure to build two and a half million new houses in the next ten years. This will put a great strain on our countryside as it planned that most will be built on greenbelt land. It is therefore imperative that the housing reflects on the requirement of the modern society. From the green paper 'Homes for the future: more affordable, more sustainable' [9]

The Government has issued various green papers on the need for sustainable housing and issued targets, but we face new challenges today. Demand for homes to buy or rent is growing faster than supply. As house prices have grown faster than wages, it is becoming increasingly difficult for young people to get a step on the housing ladder. The challenges of climate change mean we need to provide greener, better-designed housing for the future. The challenge set by the Government is to provide more homes.

Housing supply has increased substantially in the last few years and is now at its highest level since the 1980's, but supply is still not keeping up with rising demand from our ageing and growing population. [10]

While the housing stock is growing by 185,000 a year, the number of households is projected to grow at 223,000 a year, many of them people living alone.[11]



Predicted house hold size

DEPARTMENT FOR COMMUNITIES AND LOCAL GOVERNMENT (2007) *Homes for the future: more affordable, more sustainable.* Cm. 7191, London: HMSO (The Secretary of State for Communities and Local Government Report),

Figure 4. Predicted Household size[12]

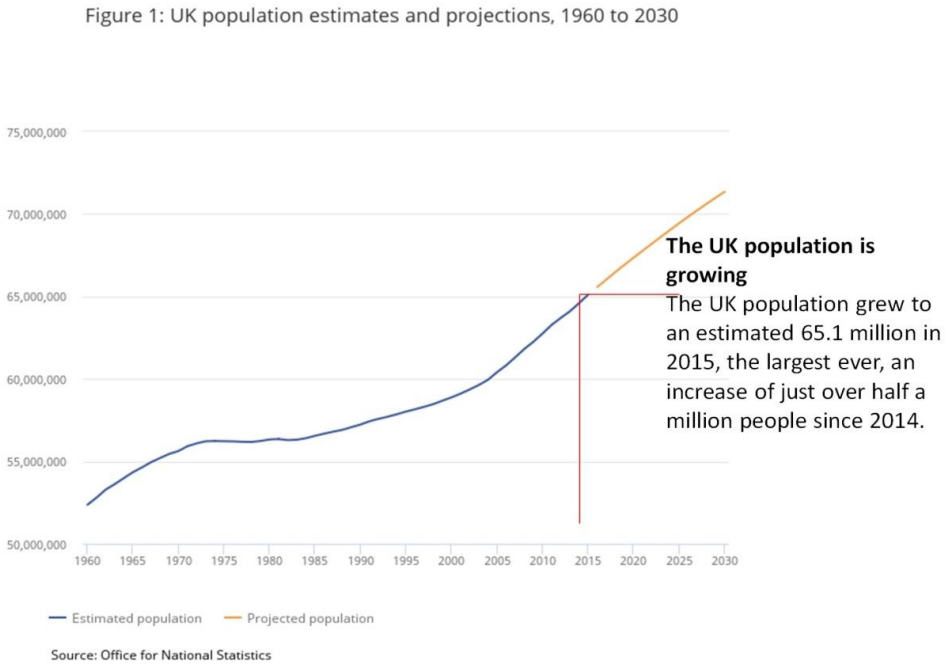


Figure 5. Actual and Predicted UK population growth[13]

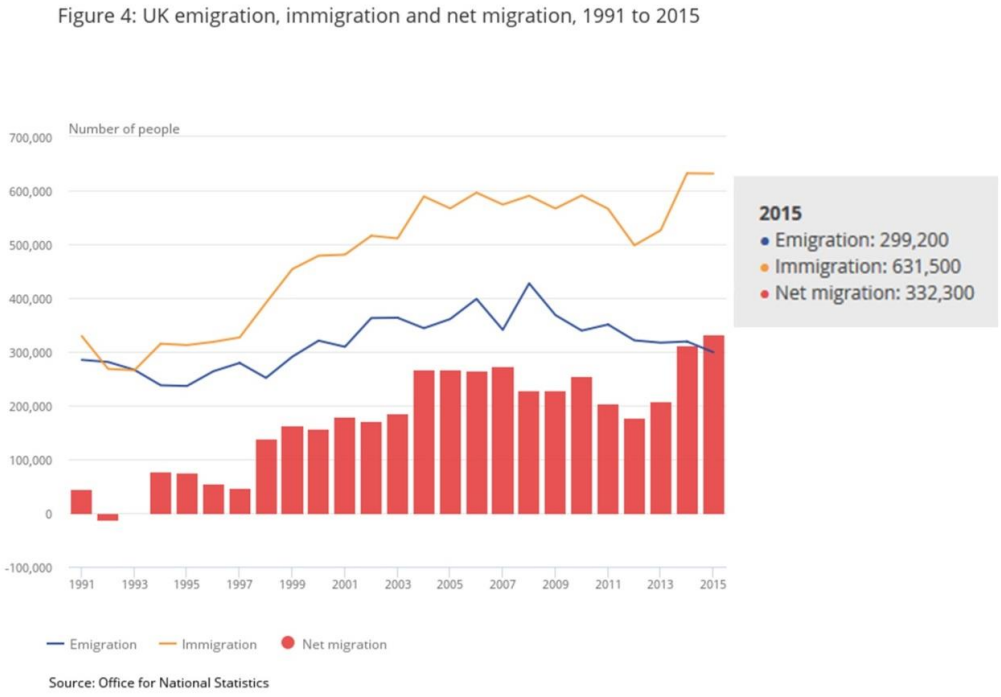


Figure 6. Net migration in 2015[14]

Estimates and projections of average house hold sizes

The estimated number of persons in a household has gone down from 2.6 persons in 1981 to a projected 2.2 in 2026. This is borne out by the United Nations statistics that Europe is now averaging 2.2 persons per household and falling. The predicted size of the average house hold decreasing in size will add to the pressure of demand.

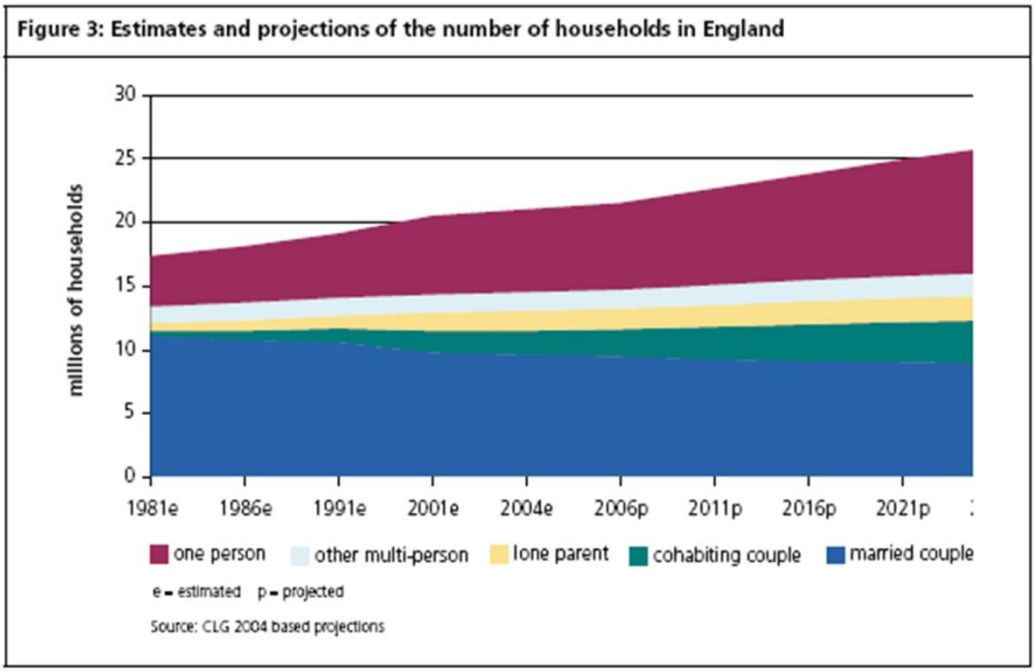


Figure 7. Estimates & projections of the number of households in England[15]

This graphic above illustrates that it is predicted demand for one person living will rise significantly in the next twenty years. The pressure on existing land requirements will be further exacerbated by the requirement of one person homes, from approximately 17 million in 1981 up to a projected 26 million by 2021. This is by far the highest predicted social change in the UK. The prediction that married couple households will fall, but that cohabiting couples will remain static along with single family homes. Other multi person homes will rise slightly. While these are predicted changes it shows that single person living is a factor that the UK and initially Europe need to tackle.

Demographics: An Ageing Society

The UK has an ageing population and in the publication 'National Strategy for Housing in an Ageing Society' designed as a consultation document, stating that 30 per cent of households are headed by an older person. Over 60 per cent of over-85s live alone, and older people living alone account for a quarter of the total projected year on year household growth currently. In the future, there will be many older people requiring appropriate housing and services. For example, there will be 85 per cent more people over 85 by 2031. The ageing population is often more pronounced in rural areas. In the most rural local authority districts, almost half of residents will be aged 50 and over by 2028.[16]

The need is to build much more inclusive and flexible housing to meet future demand in an ageing society. In particular, we need to build homes that will be adaptable enough to match lifetimes changing needs. This can be achieved by building to Lifetime Homes Standard. (Fig 8.)
Lifetime Homes Standards are a set of simple home features that make housing more functional for everyone including families, disabled people and older people. They also include future-proofing features that enable cheaper, simpler adaptations to be made when needed. For example, they make getting in and around the home easy for everyone, whether they have small children or limited mobility. These guide lines are being used in housing developments today.

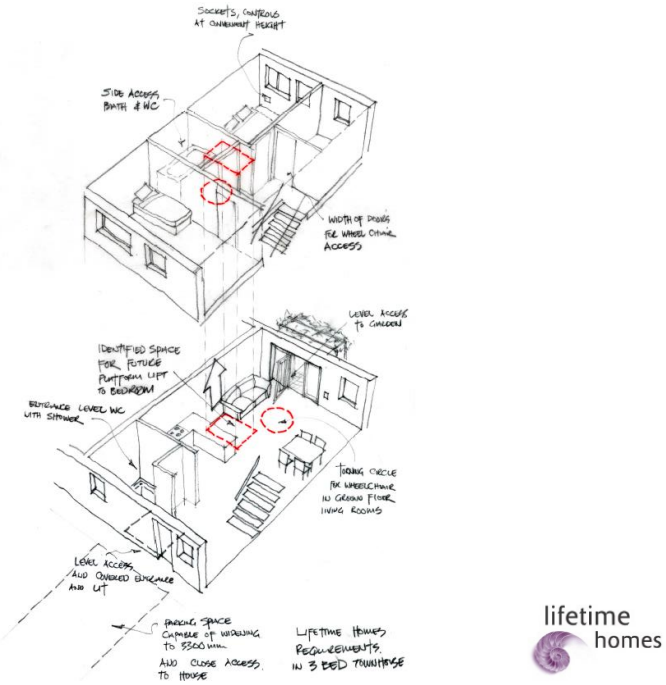


Figure 8. Lifetime homes adaptive housing[17]

THE CONCEPT SCHEME

Introduction

The idea is to produce a series of sketches that culminate in a concept scheme to show how a housing site can be developed to approximately Code 6 of the Code for Sustainable Homes Standard. The scheme represents the idea of Lifetime Homes and my idea that compact housing is possible and a housing site can accommodate families, couples and singles. The idea is that growing and shrinking families can move around the site or adapt their homes when time requires. Housing developments require some social binding for them to work.
The use of sustainable materials and renewable energy sources is also a major issue.

The site

The site is a Brownfield site previously a middle school and community centre in the small market town of Otley in West Yorkshire.
Otley is a Yorkshire market town of about 15,000 people, set on the banks of the River Wharfe. It is an ancient, picturesque town with a diverse commercial and community life, based around the farmers market. The town lies in the attractive countryside in of Mid-Wharfedale at the centre of the rural triangle between Leeds, Harrogate and Bradford. The sites orientation is north to south with a stepped

slope from the north to the south. The area of the school buildings is relatively flat. There is a brook running to the west side of the site and public footpaths to the west and south. Mature trees form a divide between two playing fields as well as to the boundaries of the site in varying degrees. The site of the football pitch is a levelled space with a bank down to the community centre. (Fig 9)

Figure 9. The site[18]

The previous occupation was a middle school with a large area of tarmac play ground a community centre and playing fields. (Fig 10) The Community centre remains and also the existing playing fields, they all are available to be incorporated into the scheme.

Figure 10. Brownfield site area[19]

Planning requirement is that the footprint of the school and playground be the only available land for housing development. The surrounding area of the site has a cottage hospital to the east and mixed housing some local authority owned as well as private to the other boundaries. The site is on an existing public transport route on Weston Lane. (Fig 10)

The Scheme

The idea of the scheme is to provide small affordable housing in three, two and one bedroomed town houses or apartments. The houses would be split and be available to both part purchase ownership and rental. The layout is designed to maximize the community spirit and encourage wildlife within the curtilage of the site. The football field would be turned into allotments for the residents. The playing field turned into a native species woodland and wild flower meadow. Encourage native bird species by adding nesting boxes. This would be continued into the housing site with facilities for swifts designed into the houses.[20] The addition of a pond will attract aquatic invertebrates. Also along the Sustainable Urban Drains (SUDS) that picks up the water from the porous paving and create a wildlife corridor among the houses. The idea also would be to use the water out of the pond in watering the allotments. The water would be pumped from the pond to an irrigation system when required. The design is very much based on the ethos of encouraging wildlife to the site. The Invertebrates Conservation Trust is known as '*Buglife*[21]' and they encourage wildflower meadows and living roofs, (on the community centre) which are proposed on this site. (Fig 10&11)

Figure 11. Overall Proposed site layout[22]

The house types are designed to be adaptable as Lifetime Homes and have a small footprint in Nett floor space. (Fig 13)

The Nett areas of the dwellings:

- Three-bed townhouse 80m². (Fig 13)
- Two-bed townhouse 67m².
- Two-bed apartment 58m².
- One bed apartment 46m².

The sizes of the dwellings are in line with the idea of small house living.

Figure 12. Housing area of the site[23]

Figure 13. Typical 3 bedroomed house[24]

The materials play a major role in the design of the houses. The use of Hemp is the main external envelope material. The structure is a timber frame which will be from a local renewable source. The frame would be pre-manufactured away from the site and craned into position, with the interior permeable boarding attached along with the intelligent membrane fixed and sealed, requiring the final sealing of the adjoining panels on site after the spray application of the hemp wall. This should allow for factory condition sealing to be carefully done especially around door and window openings.
The same operation would be carried out on the roof.
Super insulated homes that do not require space heating is the essence of the scheme along with low air permeability to Passivhaus standards using a highly efficient mechanical heat recovery system. (Fig 13) The problem is convincing the British public of the merits of permanent mechanical heat recovery. The building materials are very important in this and the walls are to be built up using timber frame as the structure and 500mm of blown hemp. Externally a 20 mm render finish and internally a 20mm lime plaster finish. The overall exterior wall is designed for a U value of 0.11 Wm²/K, The roof a U value of 0.078 Wm²/K.
The overall specification of materials is designed to meet the Building Research Establishments BRE Green Guide. At a level of C or above (the scale goes from A+ to E).[25]

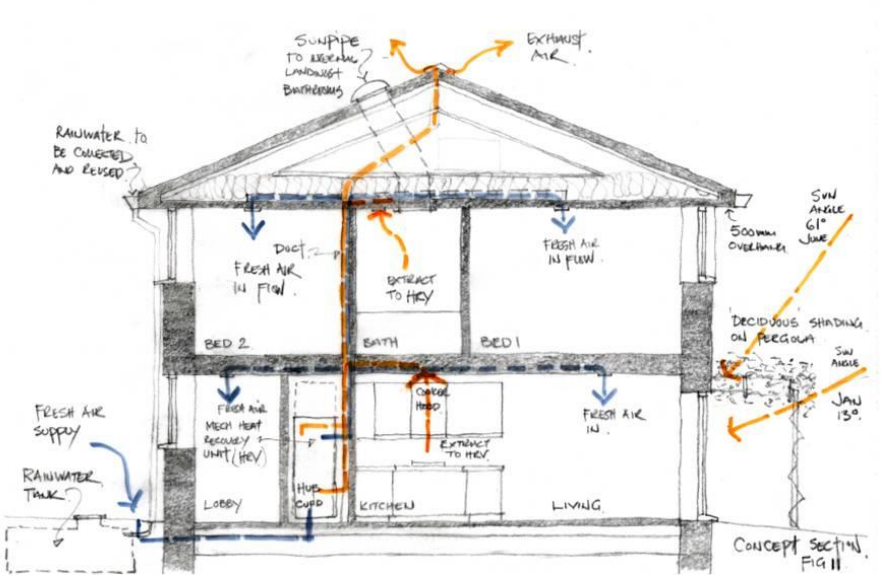


Figure 14. Typical house section.[26]

Summary and Conclusions

The thought process throughout this paper is think ‘small and simple’ I have tried to review the housing back ground and where we are going in terms of population.
Confusion reigns when discussing the size of houses. Clarity is required over square metre sizes (as used in Europe) to gauge the sizes and not by the number of bedrooms as we do in the UK.

The final section 'concept scheme' is an attempt at a Code for Sustainable Homes Code 6 development. As always the cost of achieving this and what is commercially viable is possibly some way apart.

The idea is that maybe we can all buy into the home, not been a status symbol of our wealth and success in life, and live more within our requirements the 'keeping up with the Jones' idea will all ways be prevalent, but the scheme is a possible way forward that like-minded people can move around a housing scheme as their needs change through life and be happy.

Commercial housing developers need to engage further in this dialogue of what the populous of the UK need and what presently is being offered.

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'CISADANE RIVERSIDE TOURISM' AS A STRATEGY TO EMPOWER *'KAMPUNG KEJEPIT'* COMMUNITY IN TANGERANG REGION, INDONESIA

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INTRODUCTION

As a developing country, Indonesia always has a mutual relationship between modern-and-traditional, formal-and-informal, planned-and-unplanned development. Jakarta as the capital city of Indonesia happens to be the best example about this co-existence, where the traditional settlements exists behind big, modern and prestigious development. The residents support the formal sector with cheap labor and informal economy such as street vendor, hawker, housemaid, etc. This traditional urban form also known as *kampung*, which literally means 'village', but which has come to denote a poorer neighborhood that is contained within a city. However, as it comprises a mix of lower and middle class and frequently contains permanent buildings, it is not really synonymous with slums. Squatters are few and most residents have some sort of title to the land. *Kampungs* are really remnants of original villages upon which cities have encroached and not vice versa (UN-HABITAT, 2003:211).

Since Indonesian independence, Jakarta developed into megacities that populated with approximately ten millions of people; along with the *JABODETABEK*[1] metropolitan area. Tangerang is a transit region between the port of *Merak* in the west and Jakarta in the east; thus making it suitable for industrial factories. As a suburban area, Tangerang offers cheaper land price compared to Jakarta, hence the developer invested their real estate product and developed a suburban landed housing that offers a modern and less congested than Jakarta. Before acquired by the developer, most of the land were *kampungs* that owned by a low income traditional community, they lived like any other rural community in Java which practice agricultural lifestyle. Apparently the property business attracted so many customers that the developers expanded their property line big enough to become a town, and soon after that, a city. Only within 30 years, the rural *kampungs* of Tangerang transformed into bustling modern city covering more than eighty-seven square kilometers which managed by multiple real estate developers. This phenomenon has similar characteristic with the development of Jakarta, but initiated by private company.

[1] Abbreviation of Jakarta-Bogor-Depok-Tangerang-Bekasi (the nearest cities around Jakarta that formed Jakarta metropolitan area), Bogor in the south, Depok in the south east, Tangerang in the west and Bekasi in the east.

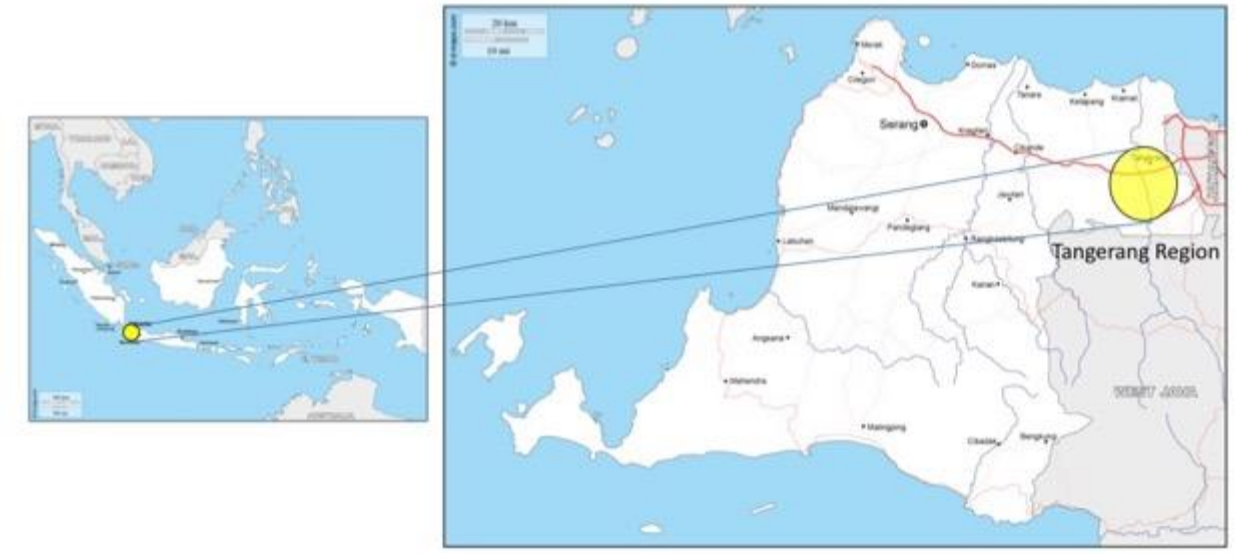

Figure 1: Tangerang region highlighted in yellow

There are four major real estate developer operating in Tangerang region: *Lippo Karawaci, Sinarmasland, Summarecon,* and *Paramount Land.* These developers have so much land banks and ambitious development that will convert their land into high density development with malls, apartments, offices, schools, etc. As can be seen in figure 2, such development only be able to accommodate middle-to-high income community which only portrays small segment of Indonesian society. There is no attention for the low-income community in Tangerang due to the planning of Tangerang region conducted by private company which has no obligation to provide social housing and considered not profitable enough.

Figure 2: Development proposal from one of the real estate developers

WHAT IS '*KAMPUNG KEJEPIT*' ?

The remaining *kampungs* that persists to exist in the middle of this massive development in Tangerang, may have benefited by the development by the new job vacancies—such as securities, gardeners, technicians, drivers, etc—but never fully integrated into the development itself. While the estate created gated clusters to ensure the security for the residents, it also gives firm segregation from the *kampungs* outside with three-meters-high wall. This co-existence but without cohesion is the type of unwanted development because it doesn't comply to the sustainable development index that promote cohesion among community members.

Figure 3: The coexistence of kampungs and the real estate development

The regional government—known as *Pemerintah Kabupaten* or *Pemkab*—of Tangerang considered the *kampungs* as an image of poverty that needs to be alleviated. That is why the *Pemkab* launched a program to improve the well-being of the low income community member in Tangerang, but the program only addresses the physical improvement such as 'house rehabilitation' for the poor people with poor house condition. Realized that they did not obtain the required resources for the program, the *Pemkab* collaborated with *Pelita Harapan University (UPH), Indonesian Institute of Technology (ITI),* and *Trisakti University*, accompanied by the community architects and planners that recommended that the greater issue is to create a cohesion between the *kampungs* and the real estate by accommodating them into the development itself.

'Kejepit'—literally translated as 'being pinched'—is an informal Indonesian language to express the situation of being 'cornered', 'pinned', 'tightly squeezed', 'besieged', or 'distressed'. It portrays the 'ugly truth' of the development itself, but covered with intensive advertisement about the luxurious lifestyle offered. The *Pemkab* has identified approximately four hundred locations of the *kampungs* that needed to

be improved but then decided to take four of them as the pilot project, each one of them accompanied by one university. Universities as a research institute will conduct the study about this phenomenon along with the raised questions: (1) how can we create the cohesion between the *kampungs* with the real estate development? and (2) what is the role of each stakeholder to create this cohesion? the purpose of this study is to obtain a new understanding about how to plan an equal development, particularly in Tangerang.

Figure 4: The position of four pilot projects (in white) adjacent to Cisadane River

Development Problems and Issues in *'Kampung Kejepit'*

Like any other undeveloped areas, the poor physical condition is a result from the poverty that disabled people to gain education, knowledge and skills to compete in the markets. Trapped in poverty and barred from opportunity, poor people live with little expectation that tomorrow will bring anything good, despite their arduous work (Narayan, 2005: 3); thus making it even harder to exercise better neighborhood when they have to struggle with daily provision. We all can agree that physical improvement is one indicator of prosperity, but it will only last for a while without the agenda of empowerment. This agenda supports development effectiveness by promoting growth patterns that are pro-poor. This involves reducing inequalities by investing in poor people's capabilities through education and access to basic health care, as well as by increasing their access to land, financial capital and markets. (Narayan, 2005: 3-4)
Outsiders' comfortable views of the poor as improvident, lazy, fatalistic, ignorant, stupid and responsible for their poverty, are reassuring but wrong. Case studies show that poor rural people are usually tough, hard-working, ingenious and resilient. They have to be to struggle against five interlocking disadvantages which trap them in deprivation: poverty itself, *physical weakness*, *isolation*, *vulnerability*, and

powerlessness. All are important, but vulnerability and powerlessness especially deserve more recognition and analysis (Chambers,1983: 10). With the lack of these accesses, the *kampungs* have been living with the reality of being treated as second class citizen that unable to participate and benefited from the development.

PROPOSED PROGRAM

The idea of *Cisadane Riverside Tourism* occurred to accommodate the *kampungs* development into something beneficial for the real estate and vice versa. It combines and exercises planning, design and entrepreneurship method to empower the *kampungs*. In planning realm, we acknowledged the place-making method as a tools to revitalize particular area or building; this method can be useful to inject new values to the *kampungs*, so that they may have equal bargaining position for the development. While the *kampungs* are unable to compete alone, all four of them have to create collective action because to overcome problems of marginalization in society, poor people critically depend on their *collective* capability to organize and mobilize so as to be recognized on their own terms, to be represented, and to make their voices heard (Narayan,2005: 11). Social capital, the norms and networks that enable collective action, allows poor people to increase their access to resources and economic opportunities. While poor people are often high in 'bonding' social capital, it is not enough. However, it must be accompanied by 'bridging' social capital in order to generate social movements that can bring about structural change (Narayan, 2005: 11)

The four kampungs share the similar character, which is located along the Cisadane river. If they can utilize the river as an attraction, then the *kampungs* can support the required facilities such as docks, bridges, restaurants, shops, etc. This new attractive destination will be managed with sustainable tourism approach. The UN World Tourism Organization—UNWTO has defined sustainable tourism as an enterprise that achieves a balance between the environmental, economic, and socio-cultural aspects of tourism development so as to guarantee long-term benefits to recipient communities. According to UNWTO, it should:

- *Make optimal use of environmental resources, maintaining essential ecosystems and helping conserve biodiversity*
- *Respect socio-cultural authenticity, conserve built and living cultural heritage, and contribute to cross-cultural understanding and tolerance*
- *Ensure long-term socio-economic benefits, fairly distributed to all community stakeholders, including stable employment and income-earning opportunities, social services, and poverty alleviation*

The tourism activities are expected to generate new economic scheme which need a business entity to operate it, thus entrepreneurship skills requirement is a must. Based on the community character of the *kampungs*, it is recommended to apply the social entrepreneurship concept to run the business. The consideration is because social entrepreneurship has a social mission to accomplish. Social entrepreneurs play the the role of change agents in the social sector by: (1) adopting a mission to create and sustain social value (not just private value), (2) recognizing and relentlessly pursuing new opportunities to serve that mission (Dees, 2001)

Attained to the vision, several strategies needed to be done first, which are to ensure the community's capacity being improved by series of trainings. The intangible issues on *sustainable tourism* and *social entrepreneurship* already become a necessity towards the vision. The tangible issues such as mapping and planning on spatial and social context also required to ensure physical changes that will indicate improvement of the community. Architects, urban designers or planners, are the most capable profession to conduct such activities, but to conduct the capacity building on tourism and entrepreneurship needed to be done by the relevant professionals.

With the better understanding on tourism and entrepreneurship, then the community will be able to determine the tourism products (i.e. river cruise, culinary, and other river related experience) and establish the ventures needed to operate the business. While the mapping and planning on spatial and social condition will determine the location and style of the of tourism facilities (i.e. lodges, docks, bridges, etc). After running on several years, the communities are expected to improve their capacity regarding experience, skills, and capability on running the business, indicated by the economic improvement; another indicator is also the physical improvement that turn the neighborhood into a well-planned and well-designed one. In the long term, the desired impacts are the poverty alleviation and also the nature conservation of *Cisadane Riverbanks,* done with the participation of the communities. The scheme for all phases can be described as followed:

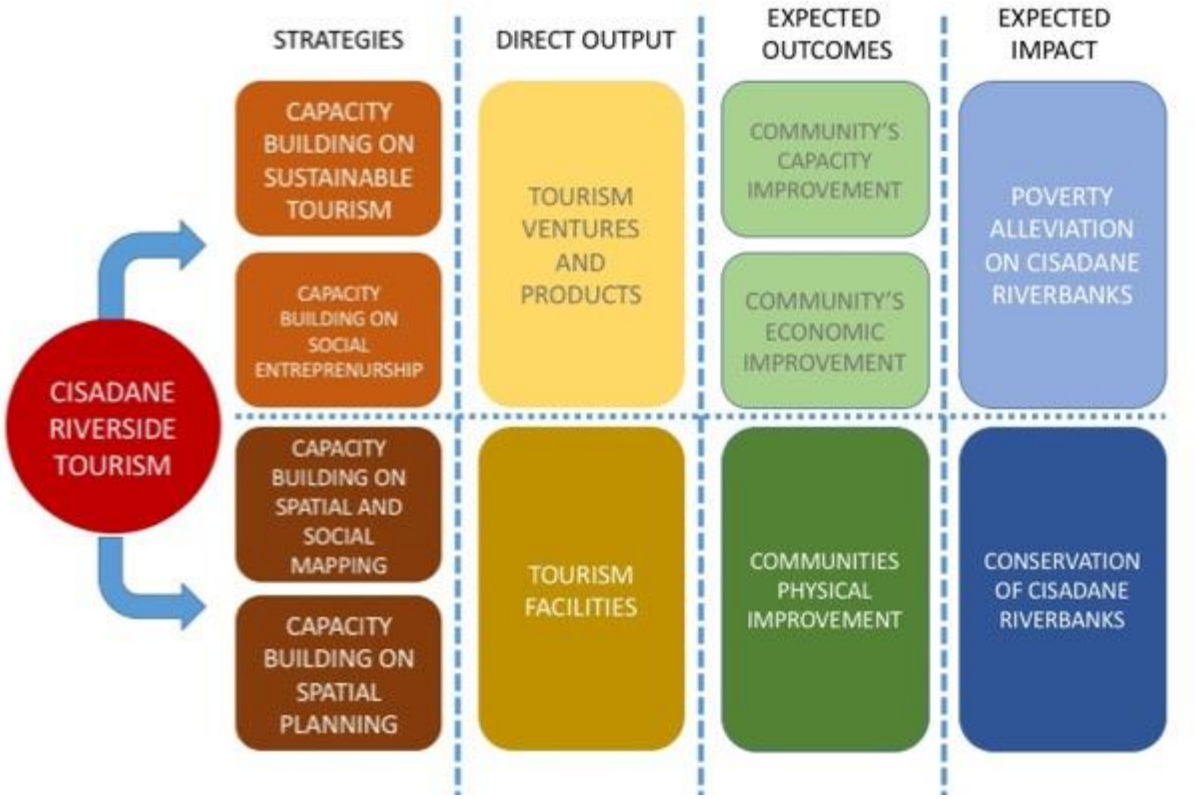

Figure 5: Conceptual scheme of the 'Cisadane Riverside Tourism' program

Expected challenges

The possible challenges for implementing the project are: (1) the resistance from the *kampungs* community due to unable to envision the greater purpose or simply does not offer the solutions for their problems, (2) the land is bought by the developer and turned into their real estate uses, (3) the universities—as the facilitator and partner of the community—withdraw or being inactive from the process, and (4) the *Pemkab* suspend or annul the program.

The resistance from the *kampungs* community member is based on trust issues, being surrounded by such a development has caused insecurities about their land status. They are fully aware that someday the *kampung* might be transformed into something and they have to relocate somewhere else. The proposed approach for this issue is to have capacity building on the development itself, by elaborating its purpose and how can they be benefited from it; particularly, the issue on sustainable development. Being aware that development programs cannot be forced and be imposed from the outside—no matter how noble the motivations— (Serageldin, 1997: 28), this process could fail when the community member unable to perceive the vision thus demotivated.

The reason why developers turning *kampungs* into real estate is because the developed land has more economic value for them. The financial strength of the developers has enabled them to be taken account by the *Pemkab*, and has to be considered as one of the stakeholder in this program. The real challenge is to assure the developers that these *kampungs* should be kept because someday they will deliver economic value for the real estate. The failure to do so will only justify the developers to claim the land someday.

In the beginning, this program was initiated by the *Pemkab* and collaborated with the universities because *Pemkab* has the highest authority to regulate and appoint the prompt partner. The five-years period agreement between the *Pemkab* and the universities was signed to ensure the whole process conducted properly. The universities have included this program into the research and community development agenda while the *Pemkab* has put it as one of the priority program. The agreement will be evaluated on every year based on the report by each university, whether it can be continued or not.

The whole process will take a seemingly long and slow process because development is like a tree, it can be nurtured in its growth only by feeding its roots, not by pulling its branches (Serageldin, 1997: 28). Addressing a fast and short term program without having the master plan for its sustainability will not generate the expected impact for transformation. It must be underlined that there is another possibility, that the process will generate a different output than *Cisadane Riverside Tourism*, it will depend on the capacity of the *kampungs* to perceive this idea. Whatever the output is, the objective is to empower the *kampungs* and to ensure the participation process from them.

The role of architect, urban designer/planner in the project

It is quite common to have architects or planner to establish a plan as requested by the wealthy clients, who are probably well educated and aware about design. In this scheme, the initiative would have come from the clients, asking for a better improvement on their property. But as for the unempowered community like *Kampung Kejepit*, the initiative would not come from them. The design or plan could not be elaborated as their needs; for as long as they couldn't see the affordable and applicable goals, then the initiative would be ineffective. The planners—in this scheme represented by universities—then hold responsibilities to bridging the gap from the government and the community, in order to deliver *Pemkab's*

agenda but still answer the community's necessity. The universities have the resources for planning, urban design, architecture, tourism, entrepreneurship; making them the most reliable partners for the *Pemkab.*
While the planners and architects are capable in visualizing the future of *Cisadane Riverside Tourism*, but they still couldn't stand alone to facilitate all the changes needed. The same principle of collective actions among the four *kampungs* is also expected for the experts/professionals as mentioned earlier to collaboratively conduct the development. This cross-discipline approach is what needed to address the development issues in developing country like Indonesia. The development of the *kampungs* will be sustained when the economic growth is maintained

CONCLUSION

One of the development characteristics in Tangerang is the existence of traditional development—or *kampung*—in the middle of modern development. The *kampungs* then surrounded with the modern development causing a '*kampung kejepit'* phenomenon which portrays the ugly truth of the development scheme because it creates coexistence without cohesion. This unequal development is a result from the poverty that disabled people to gain education, knowledge and skills to compete in the markets (Narayan, 2005: 3); and if such development continues to exist will only caused the low income community more marginalized. This is against the idea of sustainable development that promotes inclusivity regardless the economic and social background. In order to create an equal development, the local government *(Pemkab)* initiated a collaboration with *Pelita Harapan University (UPH), Indonesian Institute of Technology (ITI),* and *Trisakti University*, accompanied by the community architects and planners which recommended that the greater issue is to create a cohesion between the *kampungs* and the real estate by accommodating them into the development itself. The idea is to propose a program that combines and exercises planning, design and entrepreneurship method to empower the *kampungs*—thus called *Cisadane Riverside Tourism.*
There are some challenges that might occurred since this program involves stakeholders with different roles and capabilities. The possible challenges for implementing the project can be: (1) the resistance from the *kampungs* community, (2) the land is bought by the developer and turned into their real estate uses, (3) the universities—as the facilitator and partner of the community—withdraw or being inactive from the process, and (4) the *Pemkab* suspend or annul the program. To anticipate such challenges, it will take whole stakeholders participation—not just the community; and the universities has the most important role to bridging the gap between because of its capability to provide multidisciplinary resources that can address the issues. While the program asserts multidisciplinary approaches, it must be understood that the architects or planners have a primary role to establish the plan and facilitating the community, not merely providing designs because development programs cannot be forced and be imposed from the outside—no matter how noble the motivations— (Serageldin, 1997: 28), this process could fail when the community member unable to perceive the vision thus demotivated.

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ALAMEDA: A MODEL FOR STRUCTURING LINEAR NETWORKS

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INTRODUCTION

In spread-out, densely populated contemporary cities where neighborhoods are often isolated by physical obstacles as well as invisible barriers of race, ethnicity, and economic status, linear spatial networks can provide the venues to facilitate social and cultural exchange. Linear urban spaces are often assumed to be analogous with green infrastructure corridors, a term that can be interpreted in various ways, but which generally describes interconnected landscape sequences intended to mitigate the disruptive impacts of city fabric on animal and plant habitats. Some green infrastructure strategies focus on biodiversity, others on conservation programs or management of water resources, including use of natural drainage and vegetation to capture, slow down, and filter storm runoff, allowing it to replenish ground water aquifers.[1] Mark A. Benedict and Edward T. McMohan define green infrastructure as interconnected networks of spaces that primarily emphasize conservation of ecosystems and the protection of air and water resources while mostly excluding human activities.[2] As linear outdoor environments in which interactions between people and the natural world are accepted as complementary, *alamedas* provide an interesting precedent for expansion of the green infrastructure concept to include closer integration of human activities with endangered ecosystems.

Origins of the *Alamedas*

In *City Trees*, historian Henry Lawrence refers to the rise and persistence of nationally distinctive ways of using trees, notably the French linear promenade, the tree-lined canals of the Netherlands, the residential squares and pastoral parks of the United Kingdom, and the street trees of the United States.[3] Absent from Lawrence's list are the *alamedas*, which first appeared in sixteenth century Spain as *paseos* flanked by parallel rows of poplars, well before the appearance of precedents generally accepted as having led to the development of the French boulevards in the 19th century, including the Cours la Reine, a public park along the Seine created by Queen Marie de Medicis (1616) and the gardens of the Tuileries Palace designed by André Le Nôtre (1666).

The origins of the *alamedas* are not precisely known, but some authors believe that as the Habsburg Monarchy of Spain controlled the Netherlands in the first half of the sixteenth century, their development originated with the trees planted to stabilize embankments along canals in the Low Countries, or possibly to disguise the presence of defensive ramparts on city walls after medieval fortifications became obsolete; others cite the possible influence of the geometrical alignment of trees in ancient Rome described in the first edition of Leon Battista Alberti's treatise *De re aedificatoria* (1485).[4] Initially developed as private pleasure grounds for aristocrats and eventually popular as public urban amenities throughout the Spanish colonial empire, *alamedas* featured promenades shaded by rows of *alamos* (poplar trees) irrigated by narrow canals known as *ascequias*, statues, fountains, and plantings, as well as spaces for recreation and socializing. By establishing connections with the surrounding streets, *alamedas* increased access to park-like settings for city dwellers, many more of whom lived within walking distance than would have been the case given a larger, more regularly proportioned space with equivalent square footage.

Whatever the genesis of their development as a typology, the *alamedas* were an original invention that often consolidated and reorganized spaces previously used for a variety of activities, sacred and profane, and attracted both commercial and residential development. The significant amount of capital

investment required to build *alamedas* was initially provided by the Spanish monarchy and local elites but by the beginning of the nineteenth century, they had become a requisite urban amenity throughout the Iberian Peninsula and in Spanish colonial towns around the world. The first *alameda* was built after King Philip II (r. 1556-98) relocated the Spanish Habsburg court from Valladolid to Madrid. Through one of the greatest urban transformations ever in European history, the provincial city became an imperial capital and in the process provided the impetus for a nascent urbanism that would soon have a significant impact on town design throughout the Spanish empire and its colonial territories. Among the new works built between the old walled city and the palace was the Paseo del Prado, a tree-lined promenade intended for the king's triumphal processions with Madrid's first decorative fountains that soon became a fashionable site for a variety of urban developments as well as lovers consecrated by Venus[5].

At roughly the same time, the Count of Barajas was laying out the Alameda de Hercules in Seville (1574), an elaborate *paseo* for aristocrats which also featured avenues of poplars and fountains, as well as twin columns topped with statues of Hercules, Andalucía's mythical founder, and

Fig 1. Paseo del Prado, Madrid.

Julius Caesar, who served briefly as governor of the Roman province of Spain in 61-60 BC.

By the end of the sixteenth century, there were *alamedas* in many other Spanish cities including Alcalá, Ávila, Córdoba, Écija, Granada, Jaén, Úbeda, and Valladolid, all except Úbeda located outside the city walls. The *alamedas* in Écija, Segovia and Valencia were sited next to rivers, and the Alameda Apodaca in Cádiz was built on the coastline of the Atlantic Ocean, each one celebrating and reinforcing the water's edge while simultaneously facilitating municipal drainage. In the northeast regions of Spain including Catalunya and the Balearic Islands, *alamedas* were known as *ramblas*, from the Arabic word *ramla*, meaning a dry river bed that temporarily fills after seasonal rainfall, an indication that the *ramblas* had been built adjacent to or on top of dried up river courses. Perhaps the most famous of all the *alamedas*, the tree-lined La Rambla pedestrian mall in Barcelona, which is actually a continuous sequence of five shorter street segments that extends for nearly a mile, was built in 1761 five years after a portion of one of the original city walls adjacent to a stream bed was demolished and replaced with parallel rows of trees.

The early *alamedas* frequently marked transitions between medieval city fabric and the territory outside the surrounding walls but in time, as cities began to expand beyond their fortifications, they became integral elements of the urban layout. Not quite streets as they had predetermined lengths, and not planted as intensively as gardens, *alamedas* were hybrids of the two with a few variations, mostly limited to the length, width, numbers and layouts of tree rows, types of benches and sculptures, paving materials, patterns of tiles, and tree species. Despite similarities among *alamedas* in different locations, their shared internal logic, and absence of any formal concessions to the surrounding urban context, each one is wholly integrated and particular to the cities in which they are located.

Alamedas in Latin America

Because the majority of the main public social and commercial spaces of Spain's colonies in the Western Hemisphere were plazas significantly larger than their European counterparts, most Latin American cities had no need to expand beyond the city walls to accommodate their growing populations. In contrast to *alamedas* in Europe, those in Latin America were often created to establish connections between places of significance located outside the urban core with the city center. Just as the rigidly geometrical gridiron layouts of colonial towns were in part designed to impose the conquerors' sense of civic order on the indigenous peoples, linear columns of trees were intended to demonstrate their control of nature. The first *alameda* built in Latin America was the Paseo de la Alameda, built by Mexico's Viceroy Luis de Velasco (1590-1595) in the form of a perfect square on the site of a drained swamp where an indigenous market had previously been located.[6] A short time afterwards, the Alameda de los Descalzos in Lima, Peru (1611), initially called the Alameda Grande, was built by Viceroy Juan de Mendoza y Luna, Marquis of Montesclaros on rugged terrain covered with the stony, sandy debris deposited by floods of water of the nearby Rimac River to connect the city with the Franciscans monastery located outside the walls in the foothills of the Cerro San Cristobal.[7] Inspired by the Alameda de Hercules in Seville, the design of the passage to the monastery consisted of eight rows of willows, olive, orange, and nut trees lining three parallel traffic lanes, two for carriages flanking a central portion for pedestrians, as well as three ornamental fountains. After its destruction in 1746 by the worst earthquake in Lima's history, the Alameda de los Descalzos was refurbished by Viceroy Manuel Amat y Juniet, its original length extended by the addition of *paseos* to create an impressive sequence consisting of the Paseo de las Aguas, or water promenade, initially called La Navona after the celebrated Piazza Navona in Rome, and the Alameda de Acho (1768) located on the banks of the Rimac, depicted in contemporary illustrations as densely planted with rows of trees.[8]

Fig 2. Alameda de los Descalzos, Lima. photo Rene Davids

Alamedas as Inspiration for Urban Theory

While traditionally a purpose-built public linear space or sequence of spaces within the city, the *alameda* played a prominent role in the development of the influential Ciudad Lineal (Linear City) by visionary Spanish urban planner Arturo Soria y Mata (1844 – 1920).

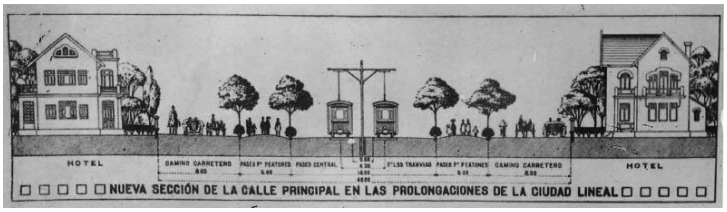

Fig 3. Section through the Main Avenue of Arturo Soria's Main Avenue

Intended for application in Madrid and elsewhere, the Ciudad Lineal (1882) was envisioned as a new form of urbanism to replace the concentric diagrams based on the traditional polarities of center and periphery with a continuous street comprised of linear infrastructural elements having other components of city fabric attached to either side. Through the center and entire length of this extraordinary thoroughfare, railroad and trolley lines would be complemented with pedestrian *paseos* lined with parallel rows of trees that essentially were extended *alamedas*. Houses would be constructed on individual plots of land on a strip running parallel to the main street, and as elements on a continuum the city would merge with the countryside, one city connected to another through a rational, additive process of expansion that would limit urban sprawl. Farms located some distance from the railway lines and business districts would have access to them using streets perpendicular to the main axis, an increase in outlets that would stimulate agricultural production. Soria saw in this the union of city and country the ruralization of urban life and the urbanization of the rural, a concept succinctly summarized in his description of the modern urban ideal: "For each family a house, for each house an orchard."[9] Soria's linear city failed to materialize as he envisaged it but the concept of organizing urban growth along linear corridors inspired numerous 20th century urbanists including Le Corbusier, Nikolay Alexandrovich Milyutin, and Tony Garnier.

In contemporary Latin America, Bogotá's recently built network of *alamedas* is an outstanding example of their potential for application as basic urban structural elements in cities throughout the world. Located on a flat savannah immediately west of the Cerros Orientales, Bogatá has abundant rainfall and is traversed by numerous streams flowing down from the mountains, creating many wetlands. Placement of the current system of *alamedas* follows the tradition begun by Viceroy José Manuel de Ezpeleta y Galdeano of Nueva Granada who built the Alameda Vieja and Alameda Nueva between 1789 a 1797 as tree-lined promenade entrances to Bogotá.[10] These spaces have long since disappeared but served as a precedent for the new Red de Alamedas de Bogotá, a network of tree-lined pedestrian and bicycle paths connecting parks, natural systems, residential areas, and urban amenities. Developed during the administration of Enrique Penalosa, Bogotá's mayor from 1998 to 2000, the Red de Alamedas was one of his government's priorities and a key element of the Plan de Ordenamiento Territorial de Bogotá, D.C. (2000), the new general plan which sought to provide low cost, ecologically

Fig 4. Alameda del Porvenir, Bogota. photo Rene Davids

sustainable transportation alternatives, recreational and leisure opportunities for all of Bogotá's residents. In developing areas as well as those yet to be developed, *alamedas* can help to define the structure of future urban initiatives and indicate the appropriate placement for new buildings, roads, and other city infrastructure. Usually thirteen meters wide, Bogotá's *alamedas* are well integrated with its the existing urban fabric, often taking advantage of the city's natural landforms. Defined by pavements, trees and planting strips, contemporary *alamedas* in Bogotá have lost the clear boundary definitions of the old *paseos*; the resulting lack of differentiation with their surroundings suggests that the extension of the Alameda de los Descalzos in Lima might have provided an interesting design precedent. Similar to their traditional function when built as formal rows of trees outside the city walls, the *alamedas* run through ecological preserves, providing organizational elements in contexts where

they are otherwise absent, with minimal compromise of their surroundings and protection from pollutants produced by informal developments and industry for water courses in Bogotá's western neighborhoods. The Alameda el Porvenir passes through the central portion of green preservation areas, connects to the Transmilenio bus routes and local transportation of the SITP (Sistema Integrado de Transporte Publico), the El Tintal library, as well as the Campo Verde y El Porvenir and Ciudadela El Recreo housing developments, the latter the first housing complex developed in 1999 by Metrovivenda, an institution that acquires privately-owned open space on the urban periphery through negotiated purchase or the use of eminent domain to build market rate affordable housing. Located adjacent to a linear park with pedestrian and bicycle routes as well as a canal southwest of Bogotá in the watershed of the Bogotá river on an 84-hectare site that is also well-connected to schools, community and health centers, the Ciudadela el Recreo was planned by architect Germán Samper Gnecco as a gridded neighborhood and its proximity to the Alameda del Porvenir recalls the typical relationship of *alamedas* to expanding settlements during the period of Spanish colonization [11]While adversely impacted by physical discontinuities, maintenance problems, and limited financial resources, the *alamedas* of Bogotá have stimulated excellent community planning initiatives and residential design in adjacent neighborhoods. Recently, the Colombian city of Medellín, has received major international recognition and some of the world's most prestigious architectural and planning awards for its integrated network of library parks and schools, in particular. Medellín's achievements are deserving of the high praise, their prominence attributable in part to dramatic local topography which provides enhanced visibility and a photogenic backdrop for the new buildings, but the visionary initiatives undertaken by Bogotá's civic leaders to improve its quality of life with better neighborhoods in which to live, work, and play have been no less remarkable.

Despite their obvious advantages, linear spaces such as those typical of *alamedas* have not found favor with some prominent planners and theorists. Kevin Lynch, an expert on the perceptual form of urban environments, categorically dismissed their effectiveness as definers of city form.[12] and New Urbanism proponent Andrés Duany rejected the concept of linear parks as providing "an extended venue for crime", perpetuating the "matrix of green as a buffer" and extending the problematic dispersive propensities of the modern city[13]These arguments ignore many of the evolutionary developments in communication and transportation technologies underway since the beginning of the 19th century which are unlikely to be reversed, and also the flexibility inherent in community planning processes. The marginalization of linear pedestrian spaces since their heyday in the 18th and 19th century European cities began as they were gradually replaced by wider boulevards, and promenading as a form of socializing declined. In recent decades, widespread public policy initiatives emphasizing the preservation of natural corridors coupled with the increasing popularity of outdoor recreational activities which are themselves linear such as running and cycling have resulted in the construction of tracks, trails, and paths often located beneath freeways, alongside canals, and parallel to ocean and river fronts, as well as other natural features in urban areas. Often described as green connective tissue, these linear spaces are typically not designed beyond the requisite conformity with such large-scale planning considerations as view corridors, patterns of land use, presence of suitable vegetation, trail topography and surface[14]

A notable exception is the High Line on the Lower West Side of Manhattan, a 1.45 mile long elevated linear park built on a disused section New York Central Railroad that features lounge seating, built-in benches, textured concrete walkways integrated with naturalized plantings inspired by the vegetation which once grew on the disused tracks, a lawn, a children's play area, and performance spaces for cultural events, as well as temporary art installations. Inspired by the Promenade Plantée (1993),

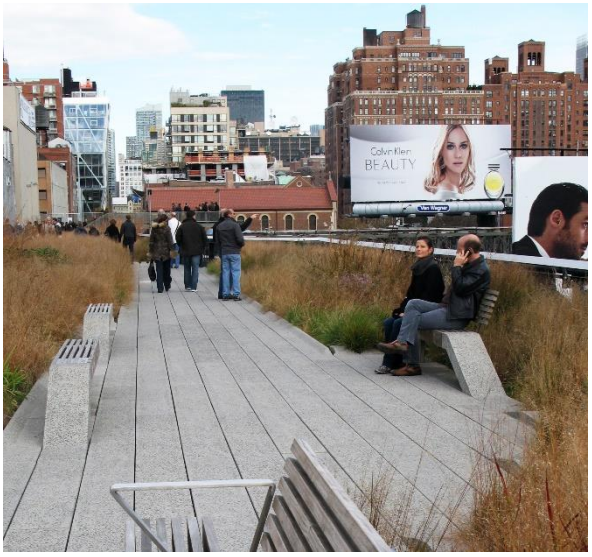

Fig 5. New York Highline. photo Rene Davids

a similar project in Paris, the High Line's first phase was completed in 2009, the second phase in 2011, and the third and final phase in 2014. From vantage points along the route, there are views above city streets, into the upper floors of adjacent buildings, and spectacular vistas of the Hudson River. The High Line has been wildly successful, attracting over five million visitors annually, and substantially increasing land values and real estate investment in the surrounding neighborhoods, in part because rather than the typical path flanked by native vegetation, it is an artfully constructed public space.

Conclusion

Unlike green corridors or other natural preserves which mostly exclude human activities, *alamedas* are complex, hybrid spaces combining social functions and constructed natural arrangements. In many post-industrial cities with disused industrial infrastructure, much of it also linear, including railroad lines, canals, areas along rivers, creeks or seashore or wide downgraded commercial corridors, *alamedas* could provide the links to vital urban networks essential to repurpose degraded urban sites as residential developments, conservation areas, commercial, and recreational spaces. By creating habitats for nature but also providing public spaces for relaxation and socializing, *alamedas* can accommodate natural ecosystems in urban contexts where subordination of social and aesthetic factors to ecological is not a requirement. Like the assumption that the city is an exclusive habitat for humans, the notion that urban trails or paths must retain the appearance of untouched natural environments establishes a false dichotomy between nature and artifice. Cities consist of both natural themselves constructed and buildings serving social as well as ecological and environmental purposes. As synthetic elements belonging to both worlds, *alamedas* can provide both the structure and connective tissue to form an integrated whole

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FLEXIBLE DOMESTICITY, ADAPTABLE STRUCTURES: TWO CASE STUDIES, MADRID AND BERLIN.

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1. INTRODUCTION

The crisis in contemporary domestic space is a relevant motivation for an analysis of the proposed case studies, a condominium located in Madrid (Arturo Soria neighbourhood, Calle Ángel Muñoz 22) and a cooperative ecological housing complex in Berlin (Tiergarten) whose architects were Emilia Bisquert, Carmen González, Ricardo Aroca and Jose Miguel Prada Poole in Madrid, and Frei Otto in Berlin. Both projects date from between 1970 and 1980, but they are undoubtedly topical for the current theme, given their conceptual architectural characteristics and their enormous possibilities of flexibility and hybridization that will be analysed later. In this sense, it is important to consider, on the one hand, the role of the architect Emilia Bisquert in promoting the hybridization and mutability of domesticity in the Madrid project housing. Her contribution seems to be visible in the Arturo Soria project (see interview with Prada Poole, (pp. 11–14). On the other hand, Frei Otto and his team in Berlin were concerned with carrying out an experimental project in the domestic sphere, in the context of the IBA (International Building Exhibition) of 1987.

In order to achieve the objective proposed, this work is organized as follows. The following section presents the methodology and information used. Section 3 reviews the existing literature. Section 4 discusses both case studies. In sub-sections 4.1 and 4.2, we present the Berlin and Madrid case studies, each with interviews, as well as the plans and graphic analysis. Section 5 contains the main conclusions.

2. PROJECT SELECTION AND METHODOLOGY

The case-study selection process was carried out in three phases. In the first phase, we developed a database of a total of 150 projects from different sources of information, such as bibliographic references, international conferences or visits to projects that could be accessed. The database considered several factors, such as Likert scale, which allows changes, scale, participant agents of a continuous type (age, budget, etc.), and these were identified as characteristics of the case studies according to the binary type (built, standardization, diversity, surface). From the proposed objective, the information available, the correlation and the interpretive relevance from the architectural point of view of the variables, we were able to select 12 case studies and five descriptive variables of the characteristics of the cases. Figure 1 shows the cases and the variables.

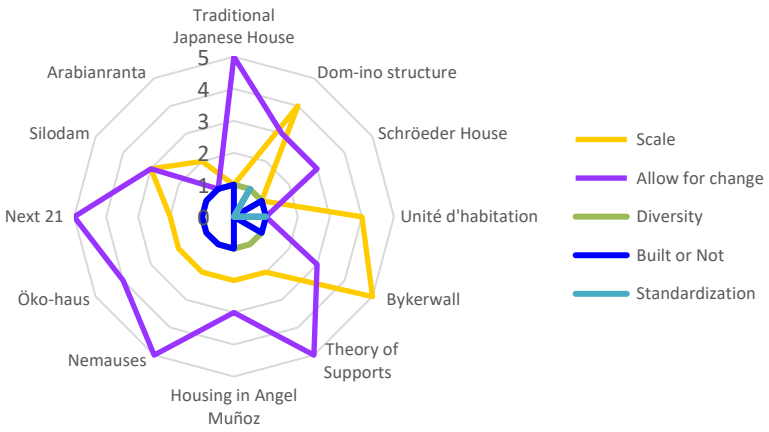

Figure 1. Case studies and their descriptive analysis. Source: Own elaboration

As Figure 1 shows, most cases show possibilities for diversification, have been constructed and are not standardized. The variables related to scale and possibilities of changes vary according to the case.

The second selection process was carried out through a cluster analysis, because of the exploratory nature of this methodology and the possibility of its classification. We used Ward's clustering method[i], which merges clusters which contribute the least to the overall sum of the squared within cluster distances. It then proceeds by finding the closest pair of clusters, combining them into a new larger cluster, and then computing the distance between this and the other remaining cluster. The process starts with every project treated as a single cluster, so the first new cluster will be a two-cases cluster, and so on. Clustering ceases when the two final clusters have been combined, so that all the data are in one cluster.

Figure 2 shows a Dendrogram with a clear description of the groupings. The first groupings, where the distances are smaller, are related to Nemauses – Next 21 (group #1) and Housing Ángel Muñoz – Ökohaus (group #2). Later, a traditional Japanese house groups with group #1 and Schröeder House with group #2, and the process was repeated until the incorporation of l' Unité d´habitation.

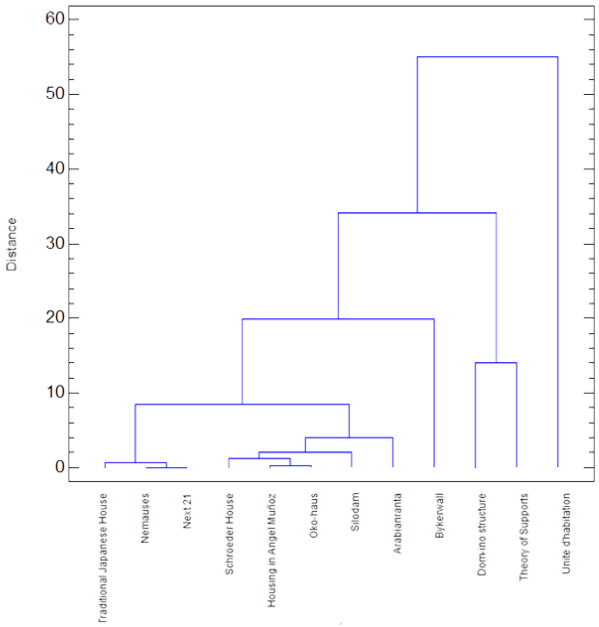

Figure 2. Cases study Dendrogram. Source: Own elaboration

From the results obtained, the analysis of group #2 was chosen. This was due to the variables analysed,[ii] the European continent, the selection of a national case, temporary proximity, and similar characteristics in relation to the exterior and construction systems.

The methodology used in this work is based on qualitative research via case study and closely follows the research process carried out by Koolhaas and Obrist[iii]. We compiled information using an iterative processes. The approach is based on field work in situ, in Madrid and Berlin. In the case-study approach, an intermediate position is chosen in terms of contents or conceptual structure, thus accompanying the initial phase of the research project. For this reason, the time spent at the project locations, collecting information through interviews, drawings, plans and videos, is also related to some limitations derived from the problems of access to other information that would have been relevant (for example, the inability to interview Frei Otto).

The dynamics of the research is reflected in Figure 3, where we can see how the process has been very iterative and diluted. Authors such as Glasser and Strauss indicate the existence of three levels of compression in the case-study classification: subjective, interpretive and positive[iv].

The positive level is based on the method of statistics and the analysis of contents based on objective reality. In addition, the researcher and reality at this level are two separate units. The interpretive level is based on the method of anthropology, hermeneutics and phenomenology. The ontology of this level is part of the researcher (person) and reality (real life) as inseparable; and building knowledge through the experiences of the person. These last two levels are those used in the present research.

Interviews as a documentary source have been key to understand each of the projects in depth from the conceptual framework, obtaining on-site information, planning, analysis and reflection in an iterative and cyclical way, towards new proposals.

The fieldwork has greatly enriched the article, without which important knowledge would not have been acquired for an overall understanding of the projects, and to develop graphic documentation with detail and special emphasis on aspects of the current users of both projects.

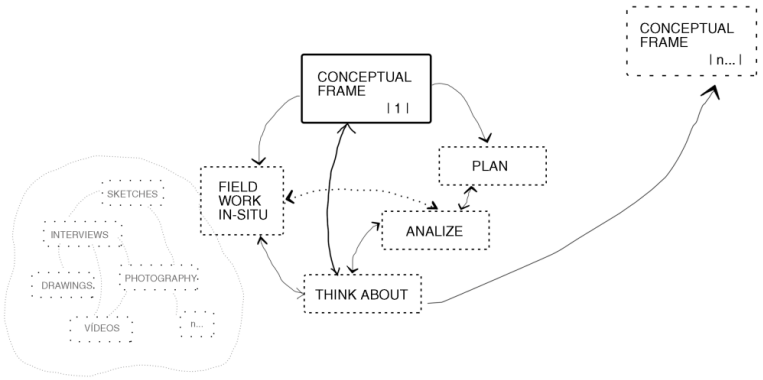

Figure 3. Process: case study. Conceptual framework and research dynamics. Own elaboration

3. REVIEW OF THE LITERATURE

A qualitative secondary research was carried out, through the literature review of the two case studies. Articles of the period were reviewed in British, German, Spanish, French and Swiss journals. The housing cooperative in Ángel Muñoz 22 and the Ökohaus in Berlin have been previously researched and analysed separately. However, except for error, they have not been previously compared.

4. CASE-STUDIES ANALYSIS

4.1. Case-study 1: Berlin

The Ökohaus project was originally proposed for the IBA in 1984, and was developed because of "critical reconstruction"[v]. Developed under a coalition of governments (social democrats and green), it was part of the ecological rehabilitation of West Berlin construction[vi]. However, it was postponed in 1987. Frei Otto was part of the project until 1980 when Professor Josef Paul Klehues proposed designing a building with ecological characteristics [vii].

In 1959, Frei Otto researched the concept of green homes for a proposed tree house in New York where branches would be mixed with tall gardens between houses. The original location of the Ökohaus was the Askanischer Platz in the district of Kreuzberg (Figure 4), where it was planned to build three skyscrapers with orchard and vegetable patchs every six metres arranged as hanging gardens. In the space between these intervals, each user would insert his "nest"[viii] in contrast to the "honeycomb"[ix].

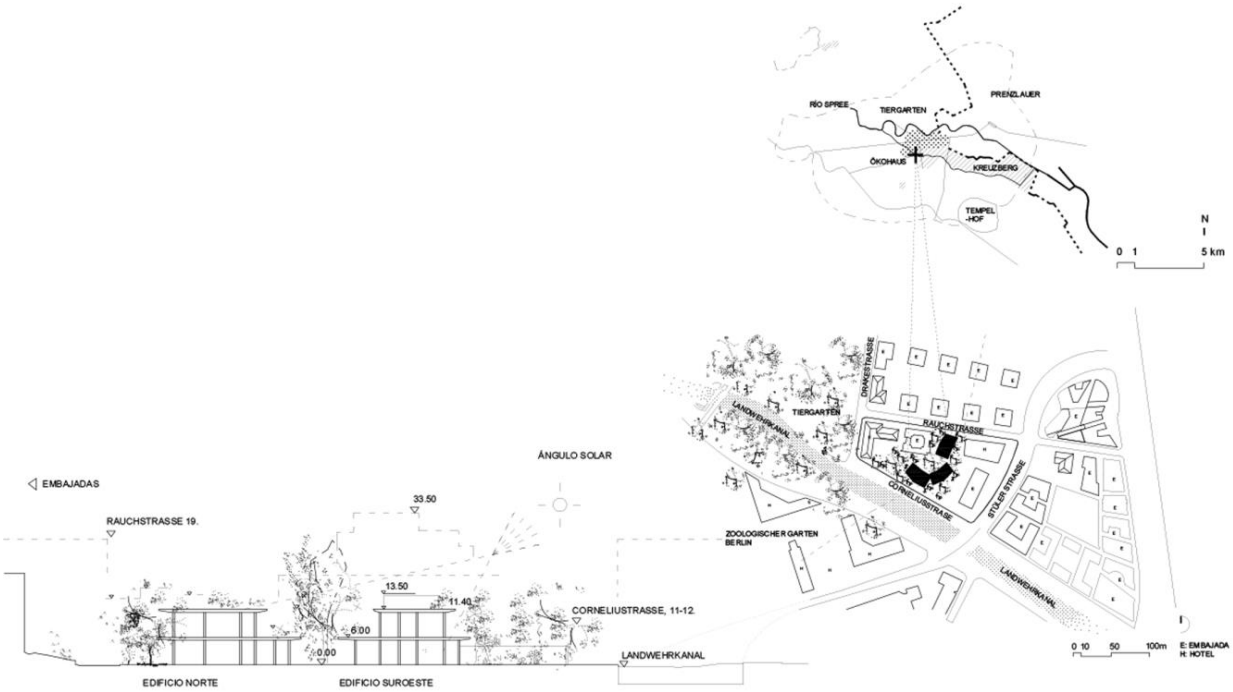

Figure 4. Berlin urban diagram explaining the areas of IBA'87, Ökohaus urban approach map and cross-section. Own elaboration.

Finally the building, given the experimental and apparently "undetermined" character, was transferred to the Tiergarten (Figure 4) on a plot of 3,940 sqm of building area. The distribution phase of the project took two years. The project was developed with 18 families selected from 1,300 consultations.

Oköhaus interviews: tenants. [x]

Five interviews were carried out. There was also an interview with Christine Kanstinger, Frei Otto's daughter.[xi.] From the questions[xii] previously planned, the following questions were combined according to the responses issued,[xiii]. Along with the interviews, graphical documentation is shown as a common thread, with a tour of the plan depending on the location of the tenant and the interviewer.

Interview #5

"The passionate neighbour of the project" (reduced interview)

Kim, a 37-year-old architect, lives with his son Alexis of 5 and his girlfriend. Kim invites me to go to the "private garden" that forms part of a continuous intermediate space of the entire second floor of the neighbours.

The plans have been modified several times, he says. The biggest change has been in the greenhouse, which has been mostly suppressed since it was too hot in summer and very cold in winter (Figure 6). Almost all the neighbours have changed this part, gaining more space in the house. In the case of the family, they changed the lodge as soon as they entered through a diaphanous space, creating a continuous through dining room[xiv].

> "A few years ago Philippe came to visit the project, Philippe Vassal from Lacaton & Vassal Architects, given that for them is a reference in their projects, in particular for the University of Nantes and the greenhouse houses are delighted with this project and say that it was a true inspiration for its later developments".[xv]

When talking about budgets and whether it is more or less economic to live in a house in the Ökohaus or another building in Berlin, the higher price of Ökohaus is given as one main reason.

> "The ground rent. The IBA did not sell the base floor to the tenants so they currently pay, more or less like, twice. Two types of land. Base floor (for rent, belongs to the Berliner institutions) and its domestic interior floor. The second reason for the higher cost of this home compared to another is the uniqueness. That is to say, each tenant in his origin wanted specific materials, different constructive systems, wooden carpentries one site or another and that caused that the budget was increased since they could not share costs".

To the question of whether he believes that the project could be repeated, the answer was clear and direct.

> "Of course, it should be repeated, not one, but many times, gradually be implemented and improved experimentally, as well as the germ of the project of Frei Otto plus team and future participants of the houses."

Figure 5. Seasonable Eelevation. South building. Half structure base origin. Design developed by the tenants on the basis of structural concrete frames. Half growth vegetation and preexisting trees in the project. Own elaboration

Finishing this first case study, one of the forecasts made by Frei Otto in 1971 was the beginning of the era of the many roads referring to the future of housing. The ecology and the variable and experimental domestic habitat is a strong highlight of the Ökohaus. If ecology is the science that studies living beings as inhabitants of a medium, and the relationships they maintain with each other and with the environment itself, the definition is carried out in all its aspects in the Ökohaus. This means understanding housing as a process of life, as a progress (Figure 5B), and not as a finished product. In the houses of Berlin, ecology is part of this progress, and the exterior is filtered in the interior. Frei Otto's earlier sketches of the treehouse for New York show two separate but interrelated aspects. The tree or structure is at first invariable, which sustains the branches with the second part, sheltering the nests. (Figure 7)

The action of "how to put yourself in the place of the person" who will live in the domestic space would be the goal to start the project. Future housing should be the opposite of "honeycomb[xvi]" of which Frei Otto speaks as a metaphor for standard constructions in the domestic sphere.

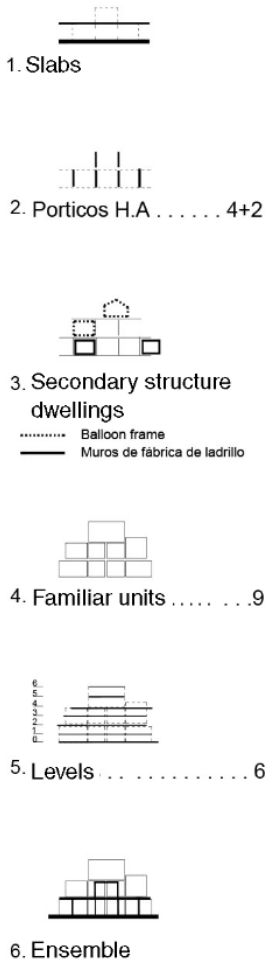

Figure 5B. Ökohaus housing as a process of lifestyles*. Diagram own elaboration*

Figure 6. Northern House Drawing. H.A communication center proposed by the team of Frei Otto. Source: Own elaboration

4.2. Case study 2: Madrid

The cooperative housing project at Ángel Muñoz 22 (Figure 8) was proposed based on a legal loophole of the M30 ordinance, in the neighbourhood of Arturo Soria of Madrid, with the only restriction being suitability of construction, allowing parameters such as height free between slabs. This case study is based on fieldwork, as is the first case study and on the interview with Prada Poole.

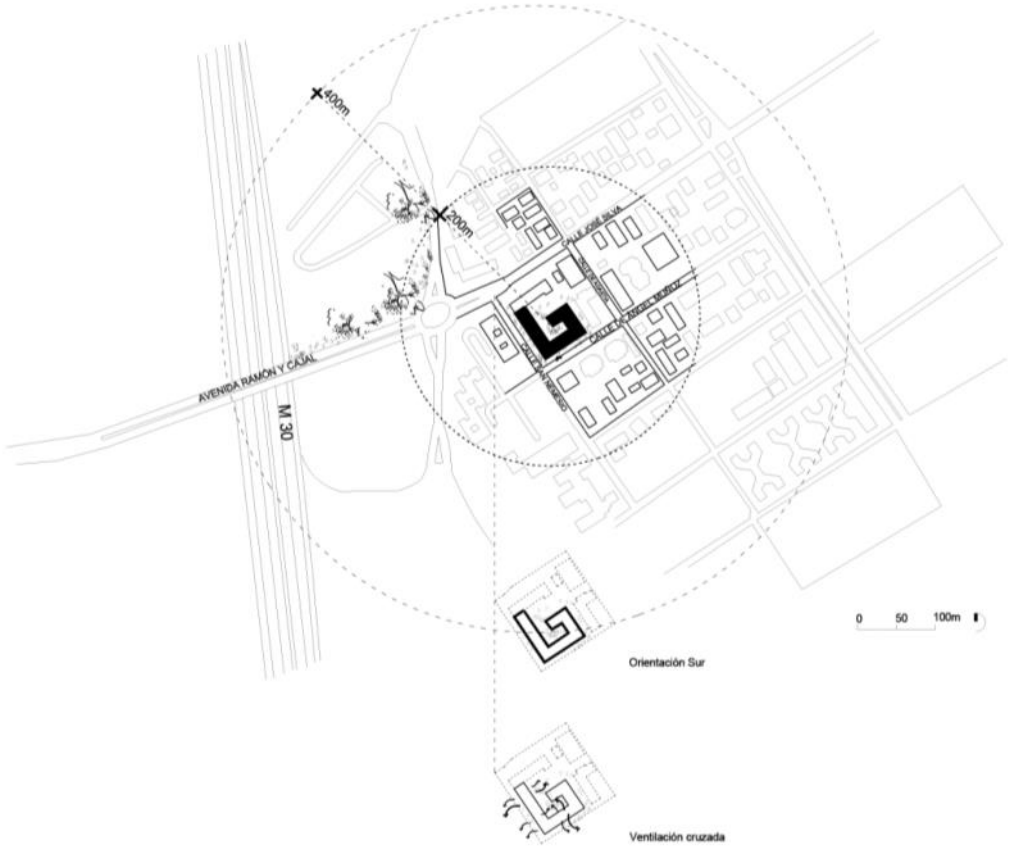

Figure 7. Arturo Soria urban plan. Own elaboration

The entrance is located in the street San Nemesio 19A. An intimate semi-public space in an "L" shape on the left of the entrance invites you to sit and to observe. As soon as you enter, the patio is half closed. The internal faces of the continuous body in "G" are turned to this green micro-lung. The height of the reinforced concrete frames of ground floor, 3'5m, allows a fluid space between the continuous portico that unifies the upper body of houses and the garden. Through the transition of pavement, hard in the porch, soft in the yard.

The proposal starts from the variability of dimensions and square meters required by the tenants. For this, two solutions could be interpreted a priori to solve the project. You could express variability, as in the project built in Berlin, or suppress it. Here the second option was chosen. It was initially designed to save costs and time. Costs given the uniformity and standardization of using a single construction system to close the façade and homogenize it. The time was reduced to cancel the approach of possibility of opinion on the part of the tenants who will be part of the building once it finishes its execution. So, is Architecture based, as a goal, to save costs and time? Could you have a choice of different materials, as there are 45 different families in the same building, without increasing the final cost of the building? With a strategic organization of the project process based on heterogeneity or customization, thus preventing obsolescence[xvii] Of it, the project development time would be the same as with the first option? Or at least with the irrelevant time difference as to implement it as an equally feasible option than standardization and absolute standardization?

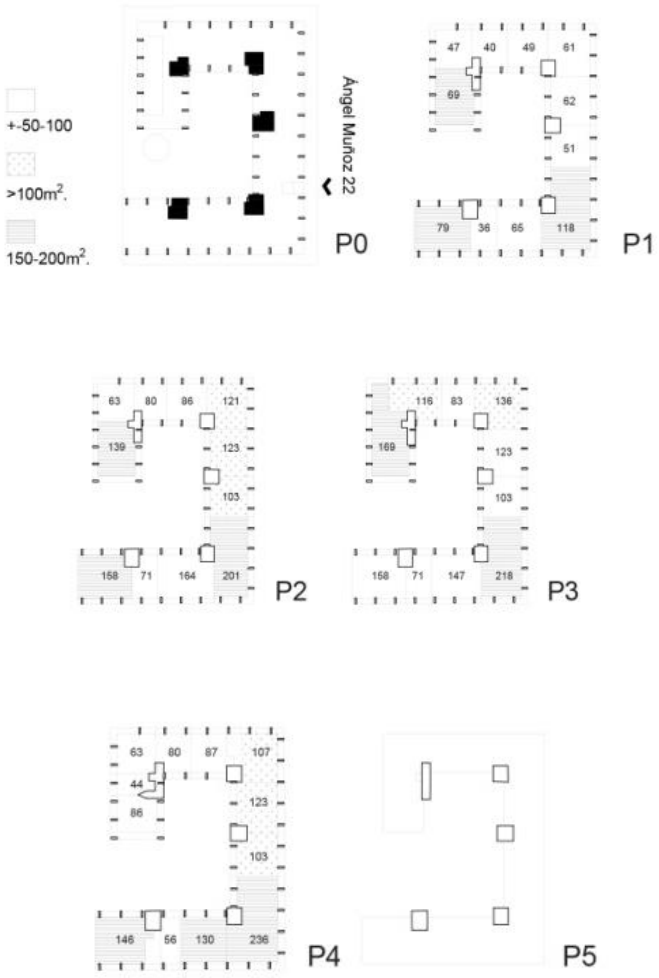

Figure 8. Distribution plans of different houses. Own elaboration

Architect interview with Prada Poole[xviii].

These are conversations with Jose Miguel de Prada Poole, an architect of the city, specializing in the geometry of infinite polyhedra, minimal housing and pneumatic structures. The interviews were carried out during January and August 2016. This interview follows a semi-structured format, with open and closed questions.

Author: Prada when did the project start? And, what was the context?

José Miguel de Prada Poole (PRADA POOLE :): The building started in 1974[xix] but the works finished between 1978 and 1979.

In 1974 the project was already done, that is, to the point ... but, until almost four years later the project of execution was not started since we did not have the permission of works.

It consists of two phases. They are two owners communities. The first part is the one in I really collaborated, the other part was made by Aroca with his studio[xx]. They are all cooperative, every floor, housing did as they wanted.

We were lucky, the ordinance was open. An ordinance peak of the M-30. It was not a housing ordinance. The only limitation we had was the total built surface. The height was free.

Here before, in the linear city of Arturo Soria, there were many houses, isolated single-family houses that demolished. So some of the owners of this building lived before in those houses. … (Figure 10) I really was, well and I consider myself a supporter of the continuous city. In a broad sense. As of the "minimal" housing that is capable of being deployed depending on the use or the situation determined. The garden you see there is interesting (Point 1, Figure 12). Well, if you think about how the growth of the city of Barcelona arises, "La manzana y el ensanche de Cerdá" (Cerdá city block) and its application in Madrid. Or the open block implemented by regulation (...) repeated as an autistic pill, pattern after pattern. We didn't want to repeat that again.

Figure 9. Housing of the linear city of Arturo Soria, 1882, in the infrastructure of Ángel Muñoz, 2017. Source: Own elaboration.

Author: How many houses are there?
PRADA POOLE: There are 4 floors. Each plant is different from the previous one (Figure 9). Actually there are 45 houses, but each one has its square meters, from 45 to 400sqm according to the tenants and their preferences (...) The truth, that was the most difficult of all. Fit that into a single plant (6, Figure 11).

Author: What type of home is it? VPO[xxi]? Private Housing?
PRADA POOLE: The project was joined by a community of owners, a cooperative. It is private housing.

Author: who did the project?
PRADA POOLE: The project was carried out with Carmen González, Ricardo Aroca, and Emilia Bisquert along with the community of owners [xxii]. In fact, Emilia Bisquert promoted the idea of variation, the use of different materials, freedom of distribution. It was her way of thinking, projecting and living.

CONCLUSIONS

This research analyzes the idea of domesticity and the space existing "*in-between*" the public and the private spheres. In addition it focuses on the participative process by taking into account different agents in its development. It values some parameters as the "*hybridization*" of housing types, by mixing types of homes in terms of space and time, depending on the budget available. The "*infrastructure*" analyzed is therefore flexible in terms of changeability spaces, generating "*livable spheres*", lasting months, years or decades.
The comparative research is focus on the strategies and analysis of five key concepts. First, the participative process as part of the project. Second, the housing type hybridization. Third, the search for flexible open systems and infra-structures to support new living concepts. Fourth, the research about alternative ways of project construction management and fifth the ecology and change in domestic practices as starting point. The research presents two existing case studies in Madrid and Berlin in the period 1970-1980. The first, a cooperative housing building in Arturo Soria constructed between 1974 and 1980 by Jose Miguel de Prada Poole, Emilia Bisquert and Ricardo Aroca, with the involvement of the community of owners. The second, developed in 1979, is a participative ecological housing located near Tiergarten in Berlin. This case study is contextualized within the IBA 1987, developed by the architects Frei Otto, Katherine Kanstinger and their team proposed in collaboration with the future community neighbours.
In order to come up with possible strategies, the project analyzed the key points the cases had in common in terms of experimental living and the possibility of re-developing new living typologies in the same adaptable "infrastructure". This point is possible thanks to the differentiation of two systems, a fixed system and the personalized one. The second key point is the relationship between the context climate properties and the development of new ways of living in community. This could perhaps be an approach that could help shape future liveable cities in terms of a sense of community and new and changing housing needs.

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(Quotes and interviews from German, Spanish or French references were translated for this paper by the author and an official copy-editor.)

[i] Ward (1963).

[ii] These allow for change, diversity, relationship to exterior, views, standardization, possibilities for growth, typology, city, country, scale of city (size), year, age, complexity of team work, cost or budget if available, square metres (area), scale project, constructive system, innovation factor, association and experimental prototype.

[iii] Koolhaas and Obrist (2011).

[iv] Barney G. Glaser and Anselm L. Strauss. *The Discovery of Grounded Theory: Strategies of Qualitative Research*. (London: Wiedenfeld and Nicholson, 1967).

[v] "Faire cohabiter l'homme et la nature, telle est l'ambition de la maison écologique (...) Les possibilités de la maison écologique sont multiples, à tel point que chaque futur habitant peut expérimenter une formule différente, avec la collaboration de son propre architecte." Johannes Ludwig, "Ökohaus: Frei Otto", *Architecture d'Aujourd'hui* 60 (1989): 99.

[vi] Ludwig, "Ökohaus: Frei Otto", 100.

[vii] "The trees were maintained and also the arrival of solar rays was quantified to be able to take advantage of all the energy of the sun that was available" (Section 3). Extract from interview with Christine Kanstinger, study partner and daughter of Frei Otto. *Der Traum Vom Baumhaus* (*The Dream of a Treehouse*). Documentary by Beate Lendt (Rotterdam: ximage, 2011).

[viii] Frei Otto, "¿Cambia de rumbo la arquitectura?", *La construcción y la vivienda en el último tercio del siglo* XX (Barcelona/Madrid: Revista Temas de Arquitectura, 1971), 8.

[ix] Otto, Frei. *La construcción y la vivienda en el último tercio del siglo XX*.

[x] In order to save space, just two interviews have been selected to give a taste of the subject.

[xi] *Der Traum Vom Baumhaus* (*The Dream of a Treehouse*) (2011).

[xii] What was the motivation for your choice (to live here)? What was the source of information? When did you decide to live here? Have you ever modified your home? What part(s) of your house did you design? To what degree do you find your home adaptable/flexible? What is your profession? Age? Budget? Maintenance? Renewable energy? Would you repeat this experience again?

[xiii] giving rise to other information chained, which each of the interviewees in their specific case, qualified.

[xiv] This data is relevant: the possibility of making changes over the years in a simple way allows the housing to adapt, be adaptive and the family nuclei can evolve without having to change their place of residence. The domestic space adapts to the biological rhythms of the person who inhabits it.

[xv] Anne Lacaton and Philippe Vassal, *Obra reciente* 60, 2G (Ed. Gustavo Gili. 2011).

[xvi] "Even though I may be shocked by many of my colleagues and urban planners, I suppose that the home of the future will not be a multi-storey 'honeycomb', which is now commonplace, where people live in a very small space. To be better, but in terms of housing there is no reason to compare them with bees." Otto, Frei. *La construcción y la vivienda en el último tercio del siglo XX*, p.8.

[xvii] Habraken, "La ciudad de soporte no tiene por qué quedar determinada de antemano; puede ser objeto de cultivo", p. 127; "La ciudad de soporte nunca contendrá slums … ninguna de sus partes llegará hacerse obsoleta.", p. 128.

[xviii] The interviews have been summarized in order to fit a 3,000-word long article.

[xix] The Theory of Supports, by John Habraken was developed in 1964 by the SAR in The Netherlands. José Miguel de Prada Poole was invited to MIT in the 60's. John Habraken in that same decade was in the USA of professor at the University of Massachusetts.

[xx] In this article, only the first part is treated as a case study.

[xxi] Spanish initials for a type of social housing. VPO: Vivienda de Protección Oficial.

[xxii] Aroca, Ricardo; Bayón, Mariano; Bisquert, Emilia. *Soporte y flexibilidad. Arturo Soria, 93. 19 viviendas, oficinas y garaje. 1975.* Revista de los Colegios de Arquitectos de Cantabria, Castilla y León Este, y León. BAU: Arquitectura, Urbanismo, Arte y Diseño. Número 21, 2002.

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THE WAY WE LIVE NOW: HOW ARCHITECTURAL EDUCATION CAN SUPPORT THE URBAN DEVELOPMENT OF SMALL SETTLEMENTS

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INTRODUCTION

Continuity in Architecture, a post-graduate atelier for research, practice and teaching at the Manchester School of Architecture, has been working directly with local communities to develop meaningful and productive proposals for the development of new homes that are appropriate for the changing needs of a 21st Century population, while also remaining sympathetic to the environment in which they are constructed.

This paper will examine the evolution of Neighbourhood Planning and discuss the projects that the atelier have undertaken in recent years, before offering some thoughts for the development of future initiatives. It is split into a number of parts; part one describes the aims, aspirations and agenda of Continuity in Architecture, part two discusses the nature of a 'research through doing' project within an academic institution, part three describes the background to the research, the particular circumstances of the relationship with the Neighbourhood Planning Committees and the projects that have been completed so far, and part four will reflect upon what has been achieved and will look to the future.

CONTINUITY IN ARCHITECTURE

Continuity in Architecture is a postgraduate atelier, which has been established at the Manchester School of Architecture for more than 20 years. The atelier runs programmes for the design of new buildings and public spaces within the existing urban environment. The emphasis is on the importance of place and the idea that the design of architecture can be influenced by the experience and analysis of particular situations. This interpretation of place can provide a contemporary layer of built meaning within the continuity of the evolving town or city.

The atelier is built upon the principals of Contextualism and agrees with Thomas Schumacher that: "Some middle ground is needed. To retreat to a hopelessly artificial past is unrealistic, but to allow a brutalising system to dominate and destroy traditional urbanism is irresponsible" [1]. The text emerged as a reaction to Modernism and is now more than a generation old, but given how critical the significance of heritage and the built environment is to our cultural future, it is now more relevant than ever.

Continuity in Architecture is inspired by the efforts of architects working within the existing urban fabric to produce a responsive architecture of narrative, space, intervention, and detail. We aim to show that the ideas and methods we examine in the studio have real and profitable applications. The main source of our architecture is the place itself. We reflect upon the persistence, usefulness and

emotional resonance of particular places and structures. We are interested in the qualities of places that have persisted and we prefer a reading of history that stresses the permanence of tradition as the subject of architecture.

Figure 1. Analysis in Bakewell using Serial Vision. [2]
Brull, Continuity in Architecture. 2016.

Tradition in architecture in this context is the embodied meaning of buildings and cities produced by centuries of lived experience. Discovery and recognition are a vital part of the design process – the architect has a duty to analyse and describe a place before it can be altered. As stated by Zucchi when discussing the work of De Carlo, "De Carlo refers more frequently to morphology than typology because, according to him, typology isolates a form from its use (and potentially from its context) whereas morphology is interested in a form only in as far as it relates to other surrounding forms and to the pattern of activities that produced them." [3]

RESEARCH THROUGH DOING

The aim of a 'research through doing' project within a school of architecture and design is to construct knowledge through the acquisition of insight and understanding. Design lies at the heart of the educational programme, and certainly within the design studio itself, it is the central locus; thus doing within architectural and design education is the design process itself. At post-graduate level, the design process is inquisitive and analytical. Research is an activity signified by the gathering of insights about an object of research; the aim of this process is the collection of knowledge. Since design and research are inextricably linked, there is a direct relationship between knowledge production and the design process.

Design and scientific problem solving can be vastly different in that scientific understanding generally leads to a logical and concrete solution, while more artistically orientated problem solving can generally be compared with the deciphering of a riddle. Research into architecture is a hybrid subject located at the interface of connecting fields of art, science and technology; an activity defined primarily by production, of physical or virtual products. Thus it can be argued that architecture and design are concerned with production.

Within all research, but especially research by doing, there is a fundamental difference between understanding and examining. Understanding is based upon a comparison, while examining requires a penetration of the object. That is, understanding is exercised at the surface of the object, whereas

examining takes place on the inside; examining is more profound. When examining an object, place or thing, the investigator is involved with it; there is an insightful relationship between the investigator and the investigated. This implies a coming together of the theory of the design and the practice of design. This suggests that the knowledge gained from doing is less objective, and so it is more revealing. Therefore, in research by design projects, it is the design process that forms the route through which new insights; knowledge, practices or products come into being.

The inclusion of live agendas within architectural education have been increasing in popularity in recent years and this is in contrast with the tendency of the twentieth century for architectural education to be 'product' orientated most commonly concerning a traditional design brief to create a given building on a given site[4]. One of the key advantages of a 'Problem Based Leaning' (PBL) approach is the development of employability and life long learning skills which begin to set the context for a lifetime of continued professional development, both formal and informal. The job of an architect requires architectural design skills alongside the ability to analyse, organise, collaborate and communicate ideas; that is to solve problems. Within architectural education there has been a inclination to create a simulated setting which allows students to show off the full range of drafting and design skills but not necessarily the additional skills required to deal with a real life problem. "Much design education is very remote and esoteric and even where design work has a 'real life' context there is a tendency to 'tailor' the design brief, often for valid educational reasons, in order that the creativity of the student is not limited by the reality of the context of the design problem." [5]

Continuity in Architecture are determined that the students should have the opportunity to react to the live context of small settlements, while also taking into consideration the wider context and the live agenda of a small urban environment, whilst also meeting the wider curricular requirements of the course.

THE WAY WE LIVE NOW

It is well documented that the UK has a shortage of well-constructed and affordable housing. The situation is still deteriorating and is now commonly referred to as the 'Housing Crisis'. The Royal Town Planning Institute have reported upon this and explain that the cost of housing, whether in private ownership or rented, now commands a disproportionate amount of peoples' income. This is not actually a current trend, the cost of housing and people's earning have for sometime been divorced, indeed since 1975 real house prices have increased by 126 per cent. The RTPI support this statement with an explanation of the current situation:

> "More than three million households in the UK now spend more than a third of their income on housing … The number of 25-year-olds who own their own home has more than halved in the last 20 years (20 per cent, compared with 46 per cent two decades ago) … Average house prices are now at 7.9 times average earnings; this is particularly difficult for many young aspiring homeowners … There has been an 88 per cent fall in the amount of social housing built compared to 20 years ago …The number of homes being built which are classed as "affordable" has fallen to its lowest level for 24 years (only 32,000 new homes) … The UK is building 15 per cent fewer homes than it was in the five years before the downturn in 2008 … The number of "working households" living in poverty (7.4 million people, including 2.6 million children) has reached record levels in part as a result of the housing crisis (especially in London and southern England) and high rents in the private rented sector." [6]

There are a number of reasons why this housing crisis has arisen, these include 1) Legislation - the power for the construction of affordable housing was removed from Local Councils, and very rigid

planning legislation that makes it difficult to build within the countryside (or Greenbelt), 2) Nimbyism - the idea that many residents do not want the tranquillity of their current situation spoilt by the influx of a great many new residences, 3) Wealth tied up within property - if house prices drop, so does the individual worth of the population, 4) Land not being available in the places where the housing need is greatest, and finally 5) Land Banking - owners are not prepared to do anything with their land, they would rather just let it accumulate value. [7]

Neighbourhood Planning was part of the Localism Bill introduced in 2011 by the British Government. It passes responsibility for important decisions about the development of the built environment from centralised government to the local community. This was a laudable attempt by the then Conservative government to redistribute decision-making powers and thus speed-up the construction of new homes. The Localism Bill was very much part of the twenty-first century movement towards the primacy of the individual and the placing of importance upon ideas of community, family and civic responsibility. One of the most significant aspects of contemporary society is the need for the individual to lay claim to the control of many aspects of the circumstances of life.

Traditional government, in which policy is formed by experts and administered by state officials, is increasingly being challenged. Top-down enforcement of regulations, rules or directives is no longer acceptable to many people who feel that the individual or small collective is much better placed to make important decisions about things that happen within their own neighbourhood. Thus Neighbourhood Planning should, in theory, be a very good thing. The community is much better positioned to understand the needs and capability of their environment. Neighbourhood Planning certainly enables communities to play a much stronger role in shaping the areas in which they live and work, it provides an opportunity for communities to set out a vision for how they want their community to develop in ways that meet identified local need and make sense for local people. However, there is the danger of well-meaning, but ill-informed individuals making decisions that have massive implications for the community. Town and Country Planning is difficult; it involves an intimate understanding of the qualities of what is already there, combined with a specific knowledge of the economic, political, social and cultural power structures of the place, and the needs and aspirations of the current population. To be truly effective as a vehicle for social change, the Neighbourhood Planning Committee need to have the ability to envisage an alternative future. The other problem with Neighbourhood Planning is the possible infiltration of the group by parties with less philanthropic and much more vested interests in developing the area.

Continuity in Architecture has been working on developments within small towns in northern England and Wales for a number of years. This encourages theories and ideas to be developed and tested at a small and controllable scale within the studio context. Projects have been completed in: Preston, Cartmel, Grange-over-Sands, Colwyn Bay, Bollington and Bakewell. The more recent projects have begun with two simultaneous investigations; the first examined the actuality of the place, the second considered what “home” means in the twenty-first century.

Colin Rowe and Fred Koetter describe ‘the city (and by our own extension, the town) as a didactic instrument’[8] that is, a place in which a desirable discourse can be formulated - and it is through these conversations that the evidence for the argument of interpretation is collected. The reading and understanding of the message of the built and the natural environment provides the basis for the discussion. We have developed a range of ways of summarising our approach, the most persistent of which is a distillation of our pedagogic method into three words: ‘Remember, Reveal, Construct’.

The nature of the home has, over the last generation, radically changed. Many of us are no longer able to live or even desire to live in comfortable three bedroom homes with small gardens and parking for two cars. Shared housing, family homes, co-housing, communal living, affordable housing, live work

units, starter homes, multi-generational living, adaptable home, homes for life, downsizing, up-scaling, and homes with shared facilities are all relevant issues and pertinent to the way we live now.

This duel investigation means that all of the subsequent design projects are informed by highly contemporary ideas about the modern lifestyle combined the strong tradition of the locality. A sympathetic reading of place and culture introduces alternative views, difference, variation and change that leads to design projects which consider the surrounding vernacular traditions, the history of the site and the needs and aspirations of the future local population (much of which the local residents may not be aware of).

Over the academic year 2016-17, Continuity in Architecture has been working in the Derbyshire town of Bakewell. This is small settlement, about 50km to the south of Manchester, set within the beautiful and highly protected Peak District National Park. The town has a higher than average elderly population, income, and house price. Development of the Bakewell Neighbourhood Plan had already begun; the town was aware that they would be obliged to construct about 150 new homes within the next decade, and they had established where exactly the social need for housing was, but they had not decided exactly where the housing could be constructed. This number of new homes was a somewhat controversial proposal within the extremely conservative conservation area.

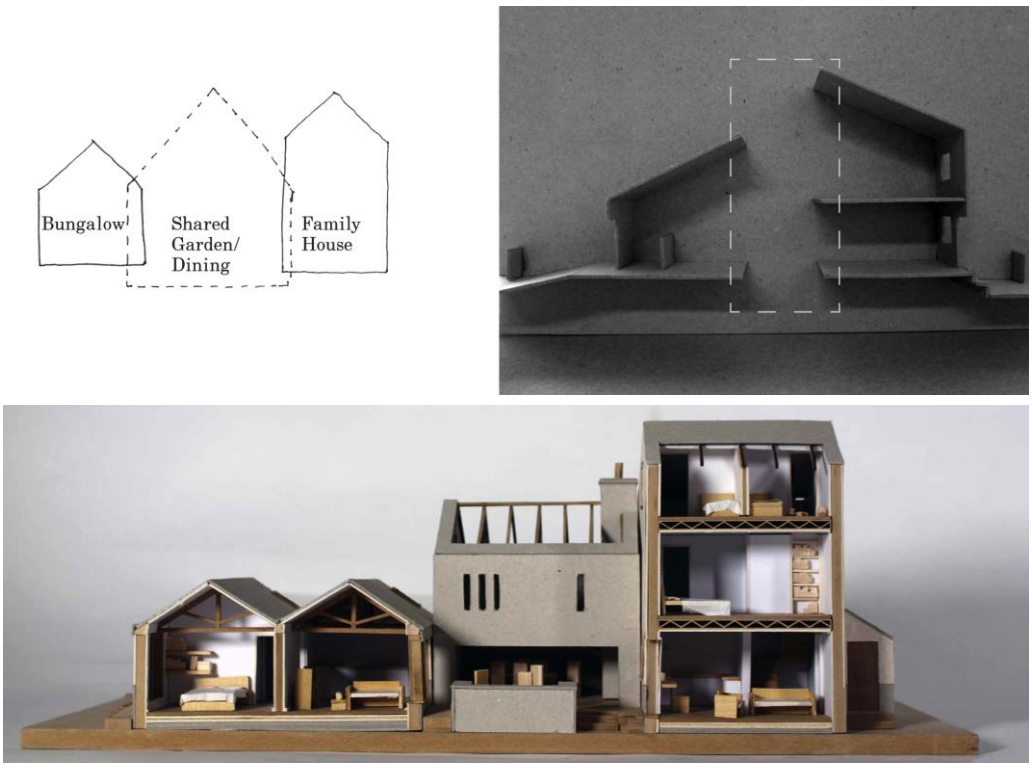

Figure 2. Project for two homes for one family with a shared dining room. Parkinson, Continuity in Architecture. 2016.

The project lasted for the whole academic year, the first semester of which focussed upon the design of a theoretical home on a small, complicated site on the edge of the town centre. This allowed the students to develop their own ideas about the manner in which the home should be occupied, combined with a particular reading of the place. This was a ‘research through doing’ project. The students developed some initial ideas about the physical and social context before they started to design, but these were extensively explored through the design project. The process of design encouraged reflection, which in turn highlighted further aspects that needed greater investigation. This

cyclical exploratory process yielded highly productive results that formed the basis for the second semester project. Three distinct housing types emerged: Live-work units, Multi-generational living (Figure 2) and housing with shared facilities; which challenged the housing types currently on offer in the town. The results were shared by the whole group, so for example, one student who was exploring live-work units would pass on their findings to another student who had maybe looked at communal-living. The design proposals were deliberately radical, but not gratuitously inappropriate. The 'ideal' was for a design that completely served the needs of the contemporary society, was obviously of the 21st Century, but also looked as if it could have always been there.

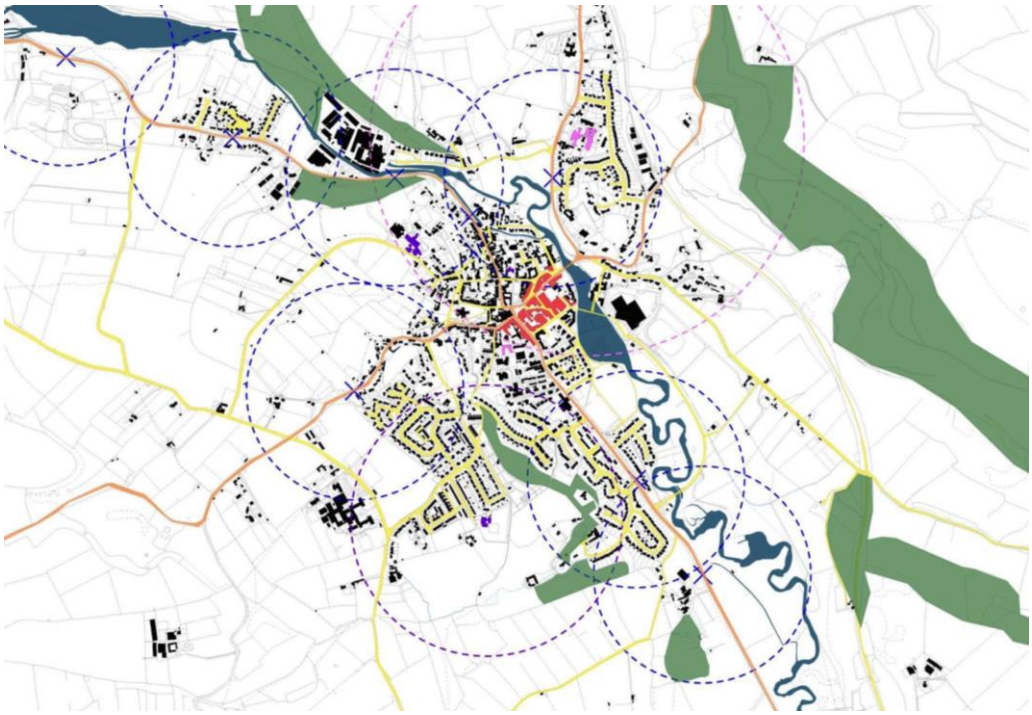

Figure 3. Analysis of potential sites in Bakewell using the BIMBY toolkit. Continuity in Architecture. 2016.

The second semester project involved working very closely with the Neighbourhood Planning Committee and the Town Council. Through a process of negotiation, and using the BIMBY toolkit (Figure 3), eight sites were selected within the town that could potentially be developed. 'Beautiful In My Back Yard' (BIMBY) is a planning tool that is designed to encourage interaction between the local community and the planning authority in the selection of appropriate sites for potential development. BIMBY looks at such factors as walking distances, accessibility, bus routes, available resources, etc. Each of the sites could potentially contain between 20 and 50 homes.

The cohort of students was then subdivided into small groups, and each was allocated one of the proposed sites. The students were expected to develop contextually driven solutions based upon the earlier ideas and concerns that had been rehearsed in the first semester. They developed an organisational plan for the site, as well as determining the exact type of housing to be established upon it. All of the projects included a variety of house types, thus providing affordable, market price, live-work, and homes for a variation upon communal living. All design solutions included a detailed examination of the exterior space, the relationship between the façade and the public space, and a meticulous investigation of the interior.

The solutions responded to the specific policies developed within the Draft Neighbourhood Plan. This was beneficial to the residents of the town, but also provided a useful and complex situation for the educational priorities of the curriculum. The three policies that the project proposals observed were:
POLICY H1 (Provision of Affordable Housing) recommends "a mix of social rented, shared ownership or a mix of the two be progressed" [9]. One example included four compact starter home benefitting from shared courtyard, outdoor storage and guest house to create an affordable solution. (Figure 4).

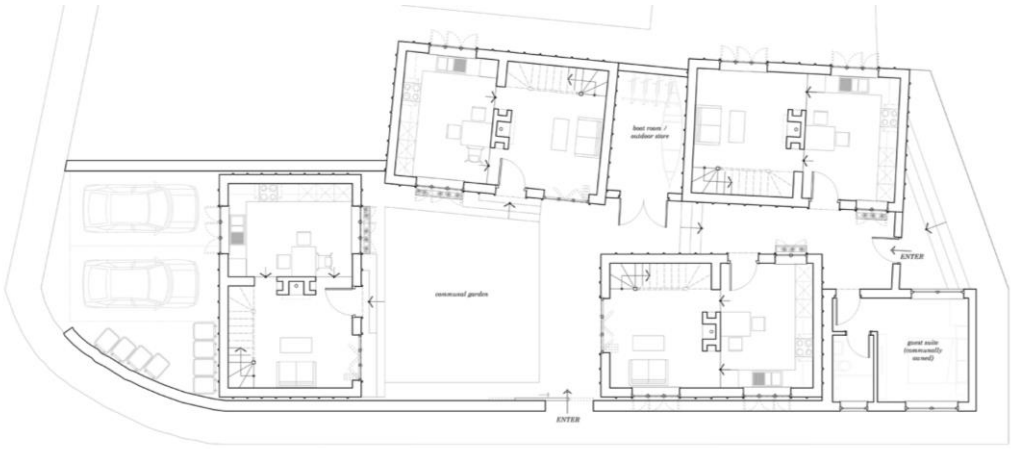

Figure 4. Four affordable houses with shared facilities.
Cooper. Continuity in Architecture. 2016.

Figure 5. Mixed housing with community squares in the woodland, Bakewell.
Parkinson and Tysklind Continuity in Architecture. 2017.

POLICY H2 (Age and Disability Related Considerations) states that developments "must meet the housing needs of the town's ageing population" [10]. This was noted in a number of the student projects including one that created a community of homes that included such aspects as level access bungalows mixed with apartments, and family homes. The social facilities were a series of shared outdoor squares, a café, allotments, a play area and multipurpose community building. (Figure 5).

POLICY H3 (Housing Mix Development) states that "all housing should be of a size in accordance with affordable housing requirements"[11]. This is evidenced in a vacant building site behind the Town Hall, which has been denied planning permission to develop housing a number of times because the proposal was unsympathetically large and involved the demolition of important structures. The student scheme buffered the contentious acoustic conditions of the Town Hall with a series of live-work units, which overlooked the quieter garden to the rear.

The design proposals were exhibited in Bakewell Town Hall. The end of the first semester exhibition proved to be somewhat controversial; there were many positive comments, however there was also obvious objection to any development in the town. Surprisingly one local resident commented, "This is too good for Bakewell". The local press reported upon the exhibition (we would have made the front page of the weekly paper if a naked intruder had not been caught on the same day the exhibition opened). By the time the second exhibition was staged, the local population had accepted the idea that development within the town was going to happen, so it was met with a much more positive reception.

REFLECTIONS

In a recent review of Neighbourhood Planning, Nicholas Boys Smith, the Director of 'Create Streets' quoted a senior planning inspector who expressed his frustration at the process: "Half of them are barely worth writing. They just parrot the local authority's plans"[12]. Boys Smith goes on to ask: "How we can make for more effective plans? Some of the answer lies at the local level. The most powerful and effective neighbourhood plans have a very strong sense of place, of what will get built and where. The two most powerful, yet insufficiently used, tools in the Neighbourhood Planning armoury are allocating sites for development and setting out a clear and predictable Design Code for what that development should be and look like." [13]

This project takes the Neighbourhood Plan beyond what is normally expected by generating real proposals, through drawings and models. This allows the general public to comment on ideas that they can visualise. The projects should be viewed as an example of best practice in Neighbourhood Planning and disseminated further on both a local and national level.

The series of projects developed within Continuity in Architecture will lead to the establishment of the Small Settlements Research Unit, this will allow the projects to develop beyond the confines of the academic year and the architectural curriculum. To a certain extent this has already happened, Bollington Town Council commissioned project for traffic calming entitled 'Reclaiming the Road' (2017) which was completed in collaboration with ARCA Architects and based upon the ideas developed by the students in the academic year 2015-16.

Design is not a linear process; it is a cyclical practice that continually involves using informed research to make design decisions that in turn creates the need for further investigation. Design through research, and research through design practices are highly productive vehicles for student progression, and when conducted in an almost live situation can prove to be beneficial for the students and the client. The information that was produced by the students reacted to the live conditions of the Neighbourhood Plan but required academic application to make it impactful. Each output was designed to challenge policy makers and propose a more place specific solution to Neighbourhood Planning.

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THE ROLE OF SPACE IN URBAN COLLECTIVE LIVING ARRANGEMENTS – KEY TO SUSTAINABLE COOPERATION IN COMMUNITIES?

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INTRODUCTION

On a September evening in 1979, about a hundred people squatted the vacant former hospital building ORKZ in the city of Groningen, Netherlands. Almost 40 years later, the building still hosts a thriving self-managed community with common public socio-cultural facilities. This type of housing can be characterized as an urban collective living arrangement (UCLA). UCLAs are participatory, intentional communities in an urban context, based on voluntary membership beyond kinship ties with a strong emphasis on sharing (e.g. space, food, childcare), and a common group identity[(1)]. They range from multigenerational multi-household communities to collaborative housing arrangements with a common mission, like eco-friendliness, spirituality, or inclusion. UCLAs are marked by a frequent exchange with their outside environment through their embeddedness in the urban context.

Sustainable Cooperation in UCLAs

But how do such communities manage to sustain themselves over time? And which role does the space they inhabit play in this? To investigate this matter, we pose the following research question: *How does the spatial structure of the UCLA contribute to sustainable cooperation in the community?* Sustainable cooperation in UCLAs is characterized by their ability to keep up the production of valuable material (task-oriented) and immaterial (relation-oriented) goods under changing circumstances. However, hardly any systematic scientific evidence on sustainable cooperation in UCLAs exists. Most insights on collective living arrangements come from explanatory panel studies modeling survival rates in large samples of communes[(cf.2-4)], and descriptive cross-sectional case studies focusing on singular factors distinguishing these communities from others[(cf.5-7)]. Official European statistical institutes do not monitor alternative housing forms[(8)].

Previous research on communes has mostly elaborated factors of commune survival, but no specific research on cooperation in UCLAs has yet been conducted, let alone the role of space herein. On the community level, the longevity of a commune as well as the size of the community have been shown to have a positive relationship to commune survival [(2,3,9)]. Moreover, the form of ownership of the land and physical structures influences commune survival by providing security about the community's base of existence if the land is owned[(3)]. However, meso- and micro-level evidence on the influence of the (physical) structures within the communities is lacking, despite of the fact that previous research in

organizations has pointed towards the importance of physical space for cooperation within organized social groups with a common goal[10].

METHOD

To explore the role of the spatial structure in an UCLA, an ethnographic grounded-theory approach was chosen[11]. The importance of the spatial structure for cooperation was identified on the basis of observation and interviews.

Data Collection and Procedure

For this study, the well-established multi-generational and diverse community Oude RKZ (ORKZ) in the city of Groningen, the Netherlands, was chosen as an in-depth case. The ORKZ is located in an urban district of the 200,000-inhabitant city. The community lives in an old hospital that was squatted in 1979, but legalized by the housing ministry five years thereafter. The ground is owned by the municipality and the building by a housing association.

Participative observation took place between June and November 2015 and between February 2016 and June 2017 after moving into the building and engaging in the community's activities.

In addition, data was gathered by conducting ten semi-structured interviews (nine face-to-face, one telephone) with residents that were treated as informants about the community. The interviews rendered roughly 20 hours of interview material. All interviewees gave their informed consent.

Half of the interviewees were selected due to their membership in a committee to inform about the organizational structure. The other half of the interviewees was selected randomly, sampling from the living units in the community. All participating interviewees were approached personally to ask for their participation. Two approached residents rejected participation.

A third way of collecting data was through archival data, obtaining documents of the community (introduction booklet, statutes, minutes of meetings, weekly community newspaper), videos, pictures, and following the community's Facebook group. The community was informed of the study conduction by means of the community newspaper with the possibility to object. Beforehand, the board of the community gave permission to conduct the study.

Research Methods & Analysis

To generate a thick description of the community and learn about its physical, social and organizational structures, the domain of cooperation and the self-perception of the community were identified in the UCLA. For this purpose, free listing techniques and type of- questions were used in the interviews with informants[12].

For analysis, the interviews were transcribed and selected material (including notes of observations and obtained documents) was coded in an iterative process with the software MAXQDA. All cues related to space were highlighted during the analysis and were cross-analyzed with cooperation. To investigate the sustainable character of space-cooperation interactions, cooperative critical incidents[13,14] were outlined and analyzed with regard to structural elements. In the iterative process of analysis, the researcher went back and forth between analyzing the obtained data and going back into the field to collect more data. During analysis, assertions were used to extract general principles and conclusions from the material, i.e., declarative statements about the data content that were revised during the analytical process according to (dis)confirming evidence from the data[15].

RESULTS

Spatial Organization and Cooperation

The building is divided into 29 corridors which form smaller sub-units of (self-)organization. Nowadays, it has 229 living units with different sizes approximately between 16 and 120 square meters (excluding some outliers) and roughly 250 inhabitants. It also has several non-inhabitable spaces that are rented as ateliers and storage spaces to both residents and non-residents as well as several social-cultural facilities such as a cinema, a bar, a restaurant, a café and a theater run by the residents themselves voluntarily and open to public visitors. Building structures change across time with renovations and redistribution of space for different activities (for example, the former cinema storage room is now the biological shop). Cooperation takes place among residents on corridors and in the main organizational, socio-cultural and meeting spaces both bilaterally, in groups and on the community level.

Sustainable cooperation is firstly facilitated by various contact opportunities in jointly used central parts of the building. The old hospital building is spacious with long hallways and perceived as large by residents, providing ample opportunities to meet but also avoid others. Central meeting places are the blackboard at the main entrance of the building, the office for all formal matters, the socio-cultural facilities and three main common gardens (see green triangles in Figure 1), which are used seasonally and multi-functionally (including social gatherings, sport events, parties, physical activities), as well as a large roof top terrace with a garden. Just like these central meeting places, the spacious hallways (both general ones and the ones on the corridors) are important for meeting other residents. Chitchatting, exchanging gossip, but also asking for help and cooperation occur frequently on the hallways. When residents do not feel like meeting others, various entrances to the building and corridors enable them to take shortcuts and alternative routes throughout the building. Several corridors have their own (multiple) entrances from the street or garden.

Figure 1. Schematic ground plot of the building of the community.

In addition to jointly used parts of the building such as hallways and central community meeting spaces, corridors are essential spaces for cooperation. Corridors usually share a living room, a kitchen and bathrooms. They differ in size, ranging from one to 14 living units (see Table 1). Eight corridors can be considered small in terms of living units with up to four living units; five rooms are not associated with a corridor. Thirteen corridors can be considered middle-sized and have between five and ten living units. There are two middle-sized corridors without common spaces. The front doors of their rooms open to general hallways. Eight corridors can be considered big and have between eleven and 14 living units. Most living units are occupied by single inhabitants. However, there is also a significant proportion of

couples (roughly estimated on average one to two per corridor) and a smaller proportion of families (at least five).

Table 1. Distribution and size of living units among corridors.

Number of living units	Number of corridors	Rooms without an associated corridor*/ corridor without common spaces
1	-	5*
2	4	-
3	-	-
4	4	-
5	-	1
6	2	-
7	1	1
8	2	-
9	3	-
10	3	-
11	3	-
12	3	-
13	1	-
14	1	-

There are three different price categories for the rent the inhabitants pay for their living units. The first and lowest rent category is for very small rooms (<20 square meters) without warm water basins. The second and most common category is for "non-independent" rooms, of which the inhabitants share common cooking and sanitary facilities. The third and highest rent category is for independent rooms or apartments that have an own shower, toilet and kitchen and usually provide the most space in terms of square meters. The rent in all categories is affordable with a Dutch minimum income or social welfare. Spaces from all categories are distributed among the building according to the original building structure, thus not in a planned and systematized way.

Residents use both corridors and other social sub-groups for cooperation related matters because the opportunities and occurrence of social contact play a role in facilitating cooperation. Social contact on the corridor differs depending on the size of the living unit (residents with smaller rooms more easily hang out in common corridor areas if they perceive these areas as cozy or social), the atmosphere and

mind set on the corridor with regard to sociability, and social subgroups (e.g. friendship groups). Corridors form social subgroups through being immediate neighbors and sharing sanitary and cooking facilities and, depending on the activity level on the corridor, organizing social activities together.

For both task- and relation-oriented cooperation on different levels, corridors as social meeting spaces are important: residents can ask each other for help, set up joint (cooperation) projects (for example to fix something together) and discuss matters important for the community. As such, they form pre-structuring community sub-units functioning as incubators of ideas and plans. For example, a resident who has the idea to change the way a community space is used (e.g. turn an atelier into a common movement room) can first check with her corridor mates if they would support such an idea. This way, she can estimate the likelihood of other community members to cooperate on her idea or plan.

The latter example illustrates additionally the function of physical space as a strategic asset. Initiatives and groups within the community can use spaces they occupy as an asset for obtaining the say over other community spaces (e.g. reach the mutual use of formerly reserved spaces by two or more parties), but also use room distribution or the need for a room (e.g. a movement group needs a movement space) as arguments for their interests. Moreover, private rooms within the community are assigned in a strategic fashion, i.e. as a reward for contributing to the community. In this latter case, physical space as a strategic asset serves social control within the community and therefore signals the importance of the social dimension interacting with the physical dimension within the community.

Interestingly, using physical space in the mentioned ways as a strategic asset shapes social relations and social interactions in the community in two main ways. Firstly, alliances according to interests related to physical space are formed (e.g. physical movement interested residents form a social (interest) group). Secondly, the physical space that people frequent forms social groups and the possibilities for social interactions, in turn influencing the possibilities of forming new interest groups. In summary, physical space and social interactions are intertwined and community space is subject to a continuous negotiation process among community members to accommodate diverging interests.

On the community level, cooperation evolves around the organizational structure of the community. The organizational community structure is therefore introduced shortly in the following to understand the intertwining of space and cooperation. The community is self-managed, meaning that it maintains the building and its services and facilities itself. All residents are part of the association De Koevoet, which decides in its general assemblies held a minimum of three times a year about the community budget (of the association, the maintenance committee and the technical service), rules, proceedings and important organizational matters. These assemblies are held in a multifunctional space, namely the largest atelier room of the community.

The community has institutionalized several services in and around the building in working groups called committees. The so-called self-sufficiency service forms the basis of engagement in voluntary committee work. The community currently counts 16 committees (see Figure 2). Double-arrowed lines represent cooperation relations in Figure 2. Arrows with a square head represent a control relation with the party at the square head being controlled. A dotted arrow indicates an insecure relation and a one-sided arrow indicates advice giving to the other party. Starred committees are trusts, including the black knot connecting several committees. Dotted squares indicate that a club is not a committee, but is recognized as community volunteer (self-sufficiency) work.

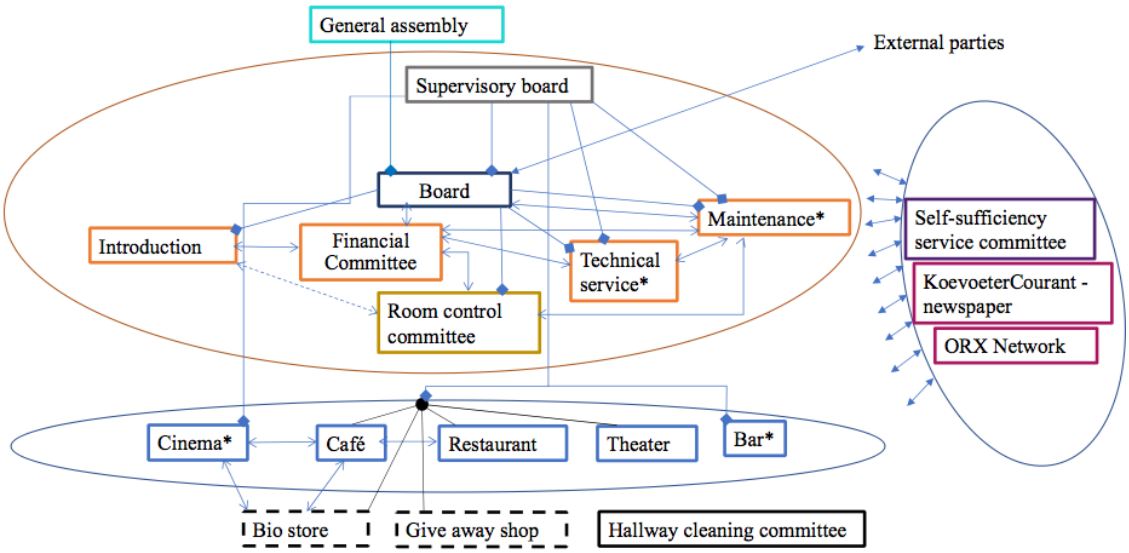

Figure 2. Organigram of the association De Koevoet.

Daily community-level cooperation evolves around two main multifunctional spaces. The first one is the office, where committees from the communication and organizational cluster hold their meetings. On the right-hand side of Figure 2, the purple bubble depicts the communication cluster. These committees all facilitate communication among residents and committees and have therefore multiple relations to different committees at different times, depending on the needed service. The ORX Network has its own office with IT facilities. The other two committees use the general office for their organizational matters, just like the organizational cluster represented in the orange bubble. The latter cluster consists of the committees necessary for maintaining the organizational functioning of the association and building.

The second important multifunctional space is the socio-cultural area commonly used by the well-established socio-cultural committees, depicted in the blue bubble of Figure 2. The socio-cultural area accommodates a kitchen, a bar, restaurant tables, a pool corner and a semi-separated corner for the give-away shop all in the same room, as well as the entrance to the bio store, to the cinema and to the theatre and attached bathrooms and storage rooms. It thus accommodates different activities in two ways. Firstly, it assigns parts of the space to different activities, so that, for instance, the kitchen is used by the restaurant and the give-away shop has its own designated area. The second is a common use of one spatial facility by different committees. For example, the cinema bar runs on the days on which there is no restaurant/café.

CONCLUDING REMARKS

In conclusion, physical space in the ORKZ community produces sustainable cooperation in three main ways. Firstly, it creates opportunities for both social contact and privacy through its size and spaciousness (various entrances and hallways). Especially common areas provide residents with opportunities for socializing and social contact from where cooperation can evolve. For the public areas in the community, this is also true for contact with the outside public. Secondly, common physical areas facilitate exchange of goods and information. Both socializing and exchange opportunities facilitate cooperation among residents. Certain types of cooperation are tight to certain spaces, as was discussed for the socio-

cultural area and the office accommodating different organizational committees. Thirdly, physical space can be used as a strategic asset within the community, producing for example social control(10) in common physical spaces. Social control can be exerted through seeing each other and observing each other's behavior, which, in turn, supports cooperative behavior.

Consequently, this study indicates that particularly common physical spaces contribute to cooperation within the community, but that also a fit of the physical structure to the organizational structure functionally benefits sustainable cooperation. Additionally, the opportunity for social subgroups to meet and pre-discuss ideas and plans regarding the community in socio-cultural as well as common corridor areas appears conducive to stable cooperation over time.

Future research should thus take the interaction of the physical with other structural dimensions into account. The spatial divide of functional clusters within the community implies the importance of the organizational structure for sustainable cooperation, whereas the role that social interaction and social relations shaped by physical space play indicate that a close examination of the social structure yields relevant insights.

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COMMUNITY LAND TRUST SOLUTIONS TO LOCAL HOUSING ISSUES

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INTRODUCTION

In the last few years the United Kingdom has experienced the rise of the 'Community Land Trust' (CLT) movement. In the last three years over 130 new CLTs have been formed, with a total of 225 currently in existence in England and Wales.[1] Community Land Trusts are also being formed across the globe from Canada and Kenya to New Zealand and Australia. The base model for a CLT has been developed over the last 50 years in the United States of America where it originally began in the Deep South to ally the issues of racial inequality in relation to land and housing provision.[2] There are also other types of successful local initiatives used to allow community ownership and stewardship of land and buildings. This paper however, will focus on the CLT model and its possibilities, and hopes to enlighten the reader to the valuable potential CLT's have to offer in a time of global crisis. It will discuss how CLT's can act as a beacon in the social housing sector by providing low energy, carbon neutral homes for their local communities, thus demonstrating some of the reasons they have become so popular in the UK since 2014.

A Community Land Trust is an organisation specifically created to hold land and/or buildings in 'trust' for the local community in perpetuity. The 'National Community Land Trust Network' acts as an umbrella organization in England and Wales for all CLT's and they explain on their website that although a CLT is not a legal form in itself like a 'company' would be, they are defined in law and therefore there are legal specifics that a CLT must be, and do:

- A CLT must be set up to benefit a defined community;
- A CLT must be not-for-private-profit. This means that they can, and should, make a surplus as a community business, but that surplus must be used to benefit the community;
- Local people living and working in the community must have the opportunity to join the CLT as members; those members control the CLT (usually through a board being elected from the membership).[1]

In this way CLT's offer the means to provide permanently affordable housing as well as securing other community facilities such as pubs, allotments, farms & gardens, and workspaces so that the community profits from this forever; this paper will focus on housing specifically. The benefit of this model means a CLT can be flexible in their set up depending on the requirements of the locality. It also means they can vary in size and operate as

effectively in rural situations as in city suburbs. The term 'community' here means a group of people working or living in an area such as a street, a village or an urban neighbourhood, that share an ambition; they have their own community's needs at the heart of their concerns.

SOCIAL HOUSING ISSUES

The Housing Act of 1980 in England and Wales introduced 'The Right to Buy' into the social housing market. The rate of building replacement properties has never reached the targets of the social housing needs since this time as there was no commitment to use the capital gained from these sales, nor any government policy to replace the sold dwellings. The UK is therefore experiencing an ongoing shortfall in decent quality homes for the low-waged and more needy sectors of the population. To compound this issue, austerity measures bought in after the formation of the coalition government of the Conservative & Liberal Democrats in 2010 meant that there have been further cuts in benefits available to tenants as well as a reduced investment in new social housing.[3] In affluent areas of the country local people are being regularly priced out of their own home areas due to rising house prices and expensive private rental properties.

From April 2016 rents charged by housing associations and other landlords in the social sector across the nation are being cut by 1% each year for the next four years, to combat a steep increase in rents over the last 'austerity' years. However, the Office for Budget Responsibility has suggested that fewer ‘affordable homes’ will be built as a result to the change in the rental regime. Simple calculations show that the reduction in the landlords’ income will have a direct relationship to the spare capital available to invest in new house building.[4] Yet nationally the Government is calling for 260,000 new homes to be built each year[5] so the urge for another social landlord is pushing the CLT solution further into the playing field.

COMMUNITY-DRIVEN SOLUTIONS

There has been global recognition that the UK's current Conservative government have been taking a 'step backwards' in the global battle to reduce carbon emissions. The UN's chief environment scientist, Prof. Jacquie McGlade, directly criticized them and stating "What's disappointing is when we see countries such as the United Kingdom that have really been in the lead in terms of getting their renewable energy up and going - we see subsidies being withdrawn and the fossil fuel industry being enhanced."[6] This emphasises the call to communities to take the lead as suggested by Naomi Klein in her book ’This Changes everything’. Here she concludes that the solution to our global environmental crisis lies in the hands of each local community as Governments, who are supposed to be protecting us and our countries interests, are proving untrustworthy as they choose to side with big corporate industries, like the fossil fuel industry, that are responsible for destroying our planets resources at an alarming rate.[7]

The Community Land Trust movement offers one potential for communities to act holistically both locally, whilst thinking globally, with a strong network of support offering help nationally. Already there is a track record of inspirational projects taking placing place in the UK. In Liverpool, the Homebaked CLT have started their program for renewal in an area of Anfield which was mainly ear-marked for demolition by the local ‘housing initiative’. A co-operative bakery with flats above is the starting point which hopes to then stretch into the renovation of the boarded-up streets of terraced housing; helping to rebuild and restore the community spirit of the area.[8]


Fig1&2. View of the Anfield terraces and the Homebaked bakery on the corner acting as the community hub and CLT base; 'Homebaked - Loaf by loaf, brick by brick and seed by seed we build ourselves'. Images courtesy of Britt Jurgensen (1) and Mark Loudon (2)

At the other end of the scale there are many 'desirable' rural areas that suffer from exponentially rising house prices; meaning local people working for rural wages are forced out of the now unaffordable accommodation. The villagers of Rock in the St Minver lowland area of Cornwall formed the St Minver CLT and have now 20 self-build homes in their portfolio which local workers and people from the area have preferential access to.[9] This is a common problem shared with other rural CLT's although particularly troublesome in the South-West of England where "the average house price in 2012 is eleven and a half times the average salary across the region, in rural areas it is up to 13 times the average salary. Social housing waiting lists have increased over the last few years more in the South West than in any other region of the UK up 26% from 148,422 in 2010 to 186,305 in 2012. One in twelve households in the South West is on a social housing waiting list." [10]

Fig3. St Minver self build housing.
Images courtesy of Cornwall Rural Housing Association Limited

As a CLT holds these community facilities and land in trust forever, there has been a keen interest in providing high quality facilities that are affordable to maintain and run. This situation sits hand in hand with providing a low-impact, low-energy and healthy housing stock as part of their portfolio: a definite bonus.

LESSONS FROM THE CALDER VALLEY COMMUNITY LAND TRUST (CVCLT)

The author is both a local architect and a member of the charity Calder Valley Community Land Trust (CVCLT) situated in a rural area of West Yorkshire in the North of England and as a recent trustee has first-hand knowledge of the workings of a CLT.

The upper part of the Calder Valley is where the CVCLT is initially focusing its efforts. The main two towns are Hebden Bridge and Todmorden; both are traditional market towns built

mainly in the industrial revolution for the woollen trade and have numerous outlying villages both in the valley bottom and up on the hilltops. The valley is susceptible to flooding. Hebden Bridge is a moderately famous town in the UK for many reasons including its unique collection of individual shops, so rare these days in the UK and in 2010 and again in 2017 it won the Academy of Urbanism award of 'Best Town in Britain and Ireland'. Interestingly, Todmorden was also a finalist for the same award in 2017[11] and is the home of 'Incredible Edible', a local food growing project which sees food growing areas around the town where people can help themselves to the produce.[12] The bountiful effect is obvious everywhere in the town with growing plots around the health centre, along the canal, next to the railway station, in all the parks, along many of the roads and there is now a farm too; you can pick easily yourself a meal during the summer months. However, behind the success stories of the town sits other less heartening information. In a recent report by the Community Foundation for Calderdale, 'Todmorden's Vital Signs'[13] shows the town has higher than average for the Calderdale area; levels of unemployment, children living in poverty, all-cause mortality rate and people living in rental accommodation plus the amount of all homes with no central-heating is double the national average. In fact, no Calderdale neighbourhood ward has the benefit of reaching this national average for central-heating which may help the comprehension of a wider view of the demographics of the area.

In the Calder Valley, each town and ward has its own specific housing issues. In Hebden Bridge houses prices and rents are high in comparison to the rest of West Yorkshire and there is a lack of availability of good quality, low-rental homes for the people who were either born, brought up or work in the area, whilst the richer incomers buy the lower priced properties to refurbish, reducing the accessibility again to cheaper accommodation.

The housing need for the area is well documented by the Calderdale Metropolitan Council. This includes the number of households wishing to obtain property in the area and the size (number of bedrooms) of the dwelling they want, the number of bids made on the available properties in the area, plus recommendations for minimum floor space requirements. A CLT can quickly ascertain the local housing need. However, there are still many people who are not on the council's housing list that still are in a housing need as the slow and laborious system to gain a home using this method is often by-passed and private rentals are commonplace. The situation is exasperated by a lack of suitable accommodation. In a recent supportive letter to CVCLT from Calderdale Council regarding a site in Hebden Bridge they highlighted the following; "46 properties have been let in Hebden Bridge between June 2015 and June 2016 and in total attracted 405 bids".[14]

Analysing data gathered from the council is one small part of the CVCLT's work, as mentioned previously it is part of a CLT's requirements is to involve both its members and the local community in the decision-making process regarding any proposed developments. Initial consultations for a CLT are to gain support and gather information from the surrounding community. A 'See it and Believe it' fund of up to £500 is available from the Community Land Trust Network to fund visits to well established CLT's within England and Wales to share knowledge and experience. This enables good networking opportunities, and in turn offers the external support from other CLT's who are willing to come to talk about their experiences at community consultations. The relationships formed between the various CLTs are an important aspect which help maximize this initial and rapidly expanding knowledge base required by the committee members of a CLT and is actively encouraged.

UK GOVERNMENTAL CHANGES TO HOUSING REGULATIONS

In March 2015 the Code for Sustainable Homes was removed[15] by July the 2008 Parliamentary Act requiring all new house-builds to be Carbon-neutral by 2016 was scrapped[16] and in March 2016 the Zero Carbon Hub was closed (this non-profit organisation had been set-up in 2008 by the UK government to help achieve zero carbon buildings) citing "the aim of striking a balance between zero carbon goals and the stimulation of growth in the house building industry". [17] However, as part of the European Union the UK has an obligation to comply with the Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC) which has set a long-term goal to reduce greenhouse gas emissions by at least 20% below 1990 levels and to maintain the global temperature rise below 2°C. As yet only reliance on building regulations standards are in force and the amendment 108 to the Housing and Planning Bill currently states that a 'Review of minimum energy performance requirements' by the Secretary of State is required.[18] This re-emphasises the concern that the current Conservative government is taking an uneducated opinion on climate change issues.

Over the last 30 years Universities have been involved in carrying out research to show that zero-energy, zero-carbon, and carbon-neural housing is achievable. Designs such as the straw bale constructed 'BaleHaus' developed at Bath University[19] and the 'Smart' positive-carbon energy house at Cardiff University, which is suggesting to use housing as energy production units that feed the national grid to replace the cost of power-station generation which increase daily household bills and burn fossil fuels[20] offer a place where CLT's can look for inspiration.



Fig 4, 5 & 6. Examples of straw bale panel constructions in 3 differing house styles; Lilac Co-housing in Leeds, Yeotown Eco-Lodges and TAM, a cosy, 'mini' home. Using naturally-grown straw as insulation means the houses are Carbon-positive and healthy. Images courtesy of ModCell.

Many companies have strong environmental principles and procedures written into their policy documentation, and architects across the land are striving ahead to secure better environmentally-friendly buildings. And in that surge of wisdom that seeks to sustain us into a healthy future in harmony with our Earth resources the CLT movement sits in the heart of a community, serving its best interests, acting locally in a global body of like-minded people. The CVCLT has already worked up its own sustainability policy creating an environmental, social and economic vision for the future and it is being developed and honed for each new project undertaken.

CONCLUSION

As a fledgling CLT in the Calder Valley the organisation is being successful in gaining public awareness and backing, council trust and funding since it started in September 2014 and

shows that there is a great willingness to support community-led solutions. So far the CVCLT has benefitted from;

- Land donated from the council in Walsden to build housing for the elderly and infirm partnering with local Alms-house charity John Eastwood Homes.
- Donation of the Fielden Centre, a grade 2 listed building used as a community space in Todmorden, by private philanthropists The Pennies.
- Brownfield land donated from the council in Hebden Bridge. After three months of community consultation designs for a terrace of housing are ready to submit for planning.

Fig 7. View of proposed terrace design for Calder Valley CLT High Street scheme (left-hand-side, top row of terraced housing with a route through) set within the context of hilly Hebden Bridge. Image courtesy of Bauman Lyons Associates.

For more information, all the UK's CLT successes are shared via the CLT Network on their website. [1]

Securing a building stock of low-energy/ positive carbon will be cheaper to run and is to the benefit of every place in the UK, particularly as the government's drive to build 260,000 new homes per year is at the forefront of their housing policy[5] and as energy tariffs increase. There is a genuine concern that climate change issues need to be addressed more rigorously as the building industry creates 40% of the carbon emissions in the European Union according to the European Parliament. [21] Action needs to be taken to prevent further global catastrophes that are internationally recognised as being due to rising CO2 emissions, which in turn are due to fossil fuel use for energy production.

Community Land Trusts across the country are striving to secure the best for their locale providing much needed access to good-quality affordable homes helping to replace the dwindling social housing stock that has been occurring since the 1980's. Positioning themselves at a micro-level and working closely with local people ensures that the housing they provide is both apt for the area, designed for the people that need it and backed by the surrounding, supportive community.

Clearly Naomi Klein[7] is correct in her conclusion; governments appear to be supporting wealthy corporate companies who persist in their flagrant disregard for sustainability rather than seeking the best and most beneficial solutions for the planet and its inhabitants. It is important that all three pillars of sustainability are holistically understood and practiced; where economics are fair and ethical, where the planet is safe, and all living beings are treated fairly and with respect. Only when the three pillars are strong will we gain a truly sustainable future and grass-root organizations such as Community Land Trusts are playing an important part of the collective solutions to the planets problems.

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SPECIAL HOUSING AREAS: A PRACTICAL PATHWAY TO LIVABLE HOMES?

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INTRODUCTION

New Zealand's housing unaffordability has been worsening since the early 2000s. Described as unprecedented in recent history, this period involved one of the longest and steepest trends of house price increases.[1] The 2017 *Demographia* International Housing Affordability Survey identified eight New Zealand cities as seriously or severely unaffordable.[2] The 2013 National Affordability Benchmark puts two-thirds of renter households and 81.4% of first home buyer households below the benchmark.[3]

Housing unaffordability in New Zealand has been attributed to various factors including mortgage-lending deregulation, small scale and inefficiencies in the building industry, construction and materials costs, slow and costly planning and regulatory processes, slow infrastructure development, inadequacies in social housing, natural growth and in-migration, and restricted land supply. [4] Central government has assumed restricted land supply to be the primary cause of housing unaffordability and sought to address it through the establishment of Special Housing Areas (SHAs) under the Housing Accords and Special Housing Areas Act 2013 (HASHAA). SHAs are land sites where housing development can be fast-tracked. They have been called "a key historical moment in the politics of housing supply and planning in New Zealand."[5]

This supply-side response is a departure for New Zealand, where housing policy since the late 1980s has been strongly focused on addressing housing unaffordability through the demand-driven Accommodation Supplement, an untied payment to consumers to assist with, but not fully subsidise, unaffordable housing. In contrast, international responses to housing unaffordability are multi-faceted, targeting both supply- and demand-side barriers. Responses have included mixed tenure and social mix programmes, social housing provider support, housing allowances, community regeneration, inclusionary planning and financial and tax instruments. [6]

This paper focuses on SHAs in Tauranga and Western Bay of Plenty (WBOP). Together these two councils[7] comprise one of the fastest growing urban areas in New Zealand, and the second least affordable, according to *Demographia*, with housing costing 9.7 times the median household income.[8] New Zealand's National Affordability Benchmark shows that 74.5% of Bay of Plenty renting households and 83.5% of first home buyer households are below the benchmark, indicating housing is not affordable.[9]

Documents setting out the establishment and operation of SHAs are examined, including regulatory impact statements, policies, housing accords and monitoring reports. Documentary analysis is used to identify the rationale, critical actors, implementation processes and expected and actual outcomes. In particular, there is consideration of whether the SHA intervention is likely to result in both affordable and livable dwellings. This analysis is the first stage of a case study about resource-holders and decision-making concerning SHAs, in *Building Better Homes, Towns and Cities*, a multi-disciplinary research programme to develop better housing and urban environments for New Zealanders.[10]

THE HOUSING ACCORDS AND SPECIAL HOUSING AREAS ACT

The purpose of HASHAA is twofold: to increase the volume of land for residential development; and to increase the pace of consenting developments in order to bring sections and ultimately housing on to the market more quickly.

Both land release and rapid consenting are expected to improve housing affordability. HASHAA is predicated on the assumption that land supply is artificially constrained by councils' restrictive planning controls, which inhibit the operation of the market and drive up the price of land. Loosening up these controls by zoning land for residential use and 'fast-tracking' consents for land subdivision, infrastructure development and building is expected to reduce the costs of supplying housing and consequently improve affordability for consumers.

A council that is defined in Schedule 1 of HASHAA as experiencing "significant housing supply and affordability issues" may set up a Housing Accord with the Minister administering the Act. Under an Accord the council can recommend to the Minister the establishment of SHAs. In turn the Minister recommends to the Governor-General that the SHA be established by an Order in Council.

In proposing a SHA, a council must demonstrate that there is existing or planned infrastructure to support the development, evidence of supplier-led demand to create the development, and evidence of consumer demand for housing. The impetus to create a SHA is driven by the market. A council receives a proposal from a developer or land owner for land to be created as a SHA. There is no requirement on the council to consult with its community about the establishment of a SHA, although some councils have done so. Furthermore, in keeping with the fast-track, permissive consenting process for SHAs, development within a SHA does not require community consultation, usually required for residential developments. There is no public notification of the proposed development and no legal appeal.[11]

HASHAA prioritises land release as the mechanism for ensuring affordability. Although councils may prescribe a percentage of dwellings in a SHA to be affordable, it is not mandatory. Some have done so, including the Auckland Council, which requires most large developments within SHAs to provide at least 10 percent affordable housing.[12]

SHAs were only ever envisaged as a short-term measure, while the Auckland Unitary Plan was finalised and reforms made to the Resource Management Act (RMA), the main legislation concerned with the supply, development and subdivision of land for residential housing. In September 2016 HASHAA was amended to allow it to continue until September 2019, since other measures to address housing unaffordability had not progressed and SHA development over the three years had been slow. By September 2016, nine of the fifteen councils named in Schedule 1 had signed Accords and 213 SHAs were established.[13] One third of all SHAs were established in 2016, and had had no time to bring housing on-stream by HASHAA's original end date.[14]

SHAS IN TAURANGA AND WESTERN BAY OF PLENTY

Tauranga is the fifth largest city in New Zealand, with a population of 114,789. The WBOP district surrounding Tauranga has a population of 43,692 spread across rural areas and six main urban settlements.[15] Both councils experience significant internal in-migration and have a growing population aged 65 years and over.[16] Together they make up the sub-regional housing market and operate as a sub-regional economy. SmartGrowth, an integrated settlement planning approach encompassing the sub-region, has been pursued since 2000. This has been reinforced by the designation of the sub-region as a 'high growth area' under the 2016 National Policy Statement on Urban Development Capacity, which requires planning for land demand and intensification.

Both councils are listed in Schedule 1 of HASHAA as experiencing significant housing supply and affordability issues. In response to housing unaffordability, two Housing Accords were established. The aim of the Tauranga Housing Accord, signed in August 2014, is to increase the number of dwelling lots by at least 1,000 in the first two years of the Accord. The Western Bay of Plenty Housing Accord, signed in August 2014, has a target of 350-500 dwellings to be built. By August 2016, eleven SHAS had been established in Tauranga, and one SHA had been established in WBOP, in Omokoroa, the district's main growth area.

Figures 1 and 2 show two SHAs. Figure 1 is a brownfields site currently zoned industrial and adjacent to existing light industrial premises and residential housing. Figure 2 is a greenfields site, one of six SHAs on the eastern outskirts of Tauranga city.

Figure 1 A brownfields SHA on which 130 apartments and townhouses are proposed.

Figure 2 A greenfields SHA, showing earthworks and new homes.

Key Actors

Key actors in the establishment of SHAs are the private sector, regulatory agencies, and housing consumers. Private developers and land owners are critical, as one of HASHAA's three criteria for SHA establishment is that evidence of demand to create a development must be demonstrated, i.e. there must be private sector capacity and willingness to build houses.

The Tauranga and WBOP accords state explicitly that private sector leadership is fundamental to the establishment of SHAs. The Tauranga Accord notes that the Accord will "maintain a well-functioning, private sector-led housing market." [17] Applications for establishing Tauranga SHAs have been driven by developers and land owners.[18] In WBOP, the majority of the SHA land is in council ownership, however, the development is being undertaken in partnership with a private developer. The Accord confirms the key role of developers, stating it "is about providing the conditions for private investment in housing and will require both Council and Government to work closely with the development sector." [19]

While supply-side actors are critical to SHA decision-making and implementation, housing consumers and the general public have no role in the decisions to establish SHAs. The legislation does not require public consultation to be undertaken, either in the establishment of a SHA, or in the consenting processes for residential development after a SHA is established. However, both councils consulted with their communities about the establishment of SHAs. WBOP Council consulted with directly affected and adjoining land owners, local community, iwi,[20] and developers. Tauranga conducted public consultation, including open days and requesting written submissions.

SHA Outcomes

Monitoring reports for the WBOP and Tauranga Accords provide data on outcomes against targets. However, the number of new houses in SHAs cannot be identified, because only 'whole of market' data is reported, including house price growth, the number of sections developed and building consents in the area, not just those in SHAs. Central government does not collect data on the number of building consents issued, or the number of houses completed in SHAs.[21]

The Tauranga Accord set four targets: increasing the number of future dwellings to 1,000; promoting the development of smaller dwellings (less than 189 square metres); promoting the development of smaller sections (less than 500 square metres); and maintaining supply of undeveloped zoned and serviced residential capacity for 8,000 dwellings. The most recent report, August 2016, noted the establishment of eleven SHAs in two years, with an estimated addition of capacity for 2,970 dwellings. Six SHAs have been issued with consents for the first stages of development, and three additional SHAs have lodged development consent applications. There have been 183 building consents issued in two SHAs. The report does not give the number of completed dwellings, but indicates that house building has commenced in one SHA. [22]

The WBOP Accord set three targets: consideration of two SHAs in the district; an increase in building consents throughout the district (not confined to SHAs); and 100 property titles issued in SHAs. The most recent monitoring report (August 2016) shows only one SHA established, with a capacity for 240 dwellings in future. A consent application for stage one of the development has been received for approximately 38 lots. To date no houses have been completed. No interest has been received from developers for the establishment of a second SHA.[23]

These data suggest slow progress in building new houses. Monitoring reports give no indication of the expected development pipeline timeframe, nor whether the establishment of SHAs has sped up the pipeline. Nor is there information about why consenting and completion of houses might be slower than expected.

WHAT'S WRONG WITH SHAS?

Initial comments from Tauranga developers suggest that they see SHAs as more likely to deliver affordable housing because the legislation excludes public notification of SHA development applications and increases housing density. However, commentators argue that SHAs neither result in more housing, nor increase the supply of affordable dwellings. It has also been contended that SHAs are not facilitating livable homes and communities.

More houses?

HASHAA's intention was not only to facilitate the release of land for housing, but also to mitigate against land-banking by signaling less certainty for capital gains from holding land, [24] and to bring on-stream "previously marginal development opportunities." [25] The Act's 2016 amendment provides for revoking SHA status if no development progress is made in 12 months. However, there is no penalty for land-banking in a SHA, and the (then) Minister of Housing stated that he had only limited power to stop it.[26] His response was to write to owners of SHA land to encourage them to start development, or risk losing SHA status. [27]

Despite the expectation that SHAs would make land-banking unattractive, numerous commentators have asserted that it is actually facilitated by the zoning change achieved through a SHA.[28] It may also be that the mere designation of a SHA encourages land-banking of nearby land. In Auckland, land adjacent to SHAs is being marketed as having land-banking potential, due to benefits of infrastructure development for the SHA.[29]

Commentators propose several reasons for the slow pace of building and potential land-banking in Auckland, including: lack of builder capacity, difficulties in accessing finance, lack of infrastructure to service residential development and developers preferring to extract value-uplift from SHA designated land, rather than build housing.[30] In Tauranga, initial comments from developers about slow progress highlight what they perceive as stronger requirements for infrastructure design at the application stage, compared to usual consenting requirements.

Affordable?

The Act has no mandatory requirement for a percentage of SHA housing to be affordable or for affordable housing to be retained, however a council may prescribe an affordable housing percentage in a SHA.[31] Around three-quarters of SHAs have affordability requirements for around 10 percent of houses in the development.[32]

The approaches of the Tauranga and WBOP accords to housing affordability are different, although neither places strong affordability requirements on developers. Initially the WBOP Council included affordability criteria in its Accord. Council officers recommended a minimum of 50% affordable housing in the development, at a maximum price of $350,000. However, it was also noted that the Ministry of Business, Innovation and Employment had advised that the Minister would be uncomfortable with a proportion of affordable housing as high as 50%. [33] Eventually the Order in Council for the Omokoroa SHA stated that a minimum of 25% of dwellings in each qualifying development must have a maximum land and house price of $350,000 and a minimum of 25% of dwellings must have a maximum land and house price of between $350,001 and $400,000.[34] Eventually this requirement was revoked and replaced by the 2017 Order, which does not prescribe any affordability criteria for the SHA.[35]

The Tauranga Accord refers to affordability in its aim to "deliver smaller dwellings at a more affordable price point." [36] However, the Orders in Council for Tauranga SHAs did not include any house price affordability criteria. Associated policy simply states that affordable housing outcomes will be negotiated for each SHA on an individual basis, and will cover the type and size of dwelling and section, dwelling and section price in relation to median prices, and potential for targeting housing needs. Policy also states that delivery of affordable housing will be balanced against the need for development to be profitable and commercially viable. [37] It was also made clear in public consultation documents that SHA developments do not need to be for affordable housing.

At this early stage, it cannot be determined whether SHAS in Tauranga and WBOP will result in any increase in affordable housing. One local developer has already signaled that there may be difficulties in achieving affordable housing in SHAs. Furthermore, there are indications in Auckland of developers withdrawing from SHAs because of a number of difficulties, including the costs of providing the requisite proportion of affordable housing. [38]

Livable?

Dwelling features that enhance accessibility, comfort and sustainable resource use, not only increase livability, but also increase the affordability of dwelling running costs. Improvements in residents' wellbeing due to such features have demonstrated benefits. There is evidence that accessible dwellings

reduce public and private expenditure on home-based and residential care, as well as public expenditure on injuries.[39] There is considerable evidence for public and private savings from sustainable features, including reduced hospitalisation due to respiratory illness caused by cold homes, and reduced household water and energy expenditure.[40]

While there is nothing in HASHAA that refers to livability, SHAs present an opportunity for improving livability. Mandatory criteria already include requirements for small dwelling and lot sizes, and height/storey restrictions, which potentially deliver a lower environmental impact. Councils could strengthen the livability potential of these criteria by adding accessibility and sustainability requirements in SHA establishment criteria.

Very few councils appear to use SHAs to promote livability. One exception is Auckland Council, which requires SHA housing to incorporate features to improve the dwelling's comfort, performance and reduce environmental impacts based on 6-star rating from the NZ Green Building Council Homestar tool, or certification under the living Building Challenge.[41] In an effort to achieve best practice in "good quality" housing in the Omokoroa SHA, SmartGrowth issued a Registration of Interest in May 2017, calling for proposals to deliver affordable, sustainably-designed housing.

CONCLUDING COMMENTS

Despite widespread public concern about housing unaffordability and apparent governmental desire to provide affordable homes,[42] New Zealand's policy responses have been piecemeal. The SHA model is a short-term, stop-gap and partial supply-side response to housing unaffordability, which was not expected to extend beyond 2016. It is a strong private sector led approach that prioritises land owner and developer interests. It also subsumes local government planning frameworks to central government directives. There is no requirement to consult with local communities over the establishment of a SHA, or about the nature of residential development planned within a SHA.

This paper has focused on documentary analysis to understand the establishment of SHAs in the Tauranga/WBOP high-growth sub-region, characterised by significant housing affordability and supply problems. There is no indication yet that SHAs will speed up building. The Accords do not have mechanisms to ensure housing affordability. Notably, neither Accord mentions promoting affordable rental housing through SHAs. Groups in the sub-region identified as experiencing housing stress, such as first home buyers, households in the intermediate housing market, renters and older owner-occupiers wishing to downsize, could potentially benefit from SHAs but there is little indication that their needs are recognised in SHA establishment criteria and targets. Similarly, while SHAs present opportunities to promote livable housing, there is little evidence of this occurring.

The second stage of this project will involve interviews with key actors (land owners, developers, councils, housing consumers and others) in order to establish their decision-making logics, objectives and intentions around SHAs. Explanations suggested for the slow pace of building will be explored. The extent to which key actors consider livability and affordability, and if so how they expect to achieve those objectives through SHAs, will also be examined. There will be a particular focus on the opportunities SHAs offer for housing the ageing population, a key driver of growth and housing demand in the sub-region.

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HOUSING AGENDA: PAST-PRESENT-FUTURE

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INTRODUCTION

Housing issues have numerous social, economic, spatial and environmental aspects. United Nations (UN) has held Habitat Conferences since 1976 which housing debates have been discussed from various approaches. An agenda, was declared for each conference related to human settlements. This paper focuses on the main housing debates, which have remained in the agenda of Habitat Conferences since the 1990's.

HABITAT CONFERENCES AND HOUSING AGENDA

HOUSING AGENDA
Affordable Housing
Access to finance to all people
Access to land to all people
Equal access to affordable housing
Adequate Housing
Healthy, safe, secure housing
Housing having basic services (health, education, recreation etc)
Accessible housing
Liveable human settlements / improving quality of life
Social Dimension
Housing for disadvantaged and vulnerable groups
(Low income group, homeless, refugess, migrants, elderly, women, people with disabilities etc)
Social integration and cohesion
Housing Policy
Institutional frameworks for the public, community and private sectors to improve shelter delivery systems
Decentralized shelter policies and their administration to subnational and local levels
Community-based, cooperative and non-profit rental and owner-occupied housing programmes
Coordination of macroeconomic and shelter policies and strategies
To integrate shelter policies with macroeconomic, social, demographic, environmental and cultural policies
Sustainability
Environmentally sustainable housing
Environmentally sound construction methods
Sustainable energy use
Use and maintenance of existing housing stock (urban regeneration, upgrading slums)
Avoiding urban sprawl
Conservation and rehabilitation of the historical and cultural heritage

Figure 1. Housing Agenda
(Adapted by the author from the agenda of Habitat II and Habitat III)

Agenda of Habitat II and Habitat III can be summarized as in figure 1. Many of these topics can be shared under more than one title, making it difficult to define and group under one umbrella.

AFFORDABLE HOUSING

Affordable Housing (AH) is housing of a reasonable quality that is affordable to people on modest or low incomes. It includes various kinds of housing provision, each with its own eligibility criteria for meeting different needs. The price-to-income ratio is used to measure housing affordability. Empirical evidence reveals that when housing prices rise, housing affordability decreases.[1] But, housing affordability involves many problems and cannot be analyzed by using only the average or median housing price. Cai and Lu propose a broader housing appropriateness concept with four dimensions - affordability, accessibility, amenity and adequacy-which goes beyond the price and income terms widely used in research to measure housing affordability. They suggest that a more dynamic and holistic view is needed when evaluating housing affordability problem.[2]

Housing finance has risen to the top of research and policy agendas in recent years because of the argument that correctly structured finance systems can deliver improved housing. Community funding, for example, is argued as an innovative way of financing housing.[3] Government intervention that aims to stabilize prices in the housing market has been another popular approach. Since the housing market is an imperfect, competitive market, governments have always justified intervention in the housing market. But the deregulation policies led to a decrease in the housing supply and an increase in housing prices during the financial crisis of 1998.[4] On the other hand, some governments have reformed public finance institutions to make them more prudent and regulatory regimes to encourage private finance institutions to go down-market.[5] In developed countries, the ability to borrow funds to finance housing investment is generally a key determinant of whether a family can afford to become a home owner.[6] Access to institutional housing finance has largely failed for low-income groups since neo-liberalism has spread around the globe. Low/moderate income residential development requires a broad spectrum of credit methods suited to many types of housing and income levels.[7]

Over the years, several studies have investigated the influence of different factors on housing prices. Empirical studies start with supply and demand. They use exogenous macroeconomic variables, such as income, population, land and construction cost to explain housing price.[8] At the city level, environmental factors, such as urban landscape[9], effect the price. Location within an urban area is assumed to be a determinant of housing prices within standard urban economic models, which reveals that the urban spatial structure has a significant impact on housing price.[10] Some researchers investigate the impacts of some facilities, services and urban infrastructure in housing price, such as transportation, educational facilities and accessibility to community facilities.[11]

ADEQUATE HOUSING

The right to adequate housing can be traced to the Universal Declaration of Human Rights, which was unanimously adopted by the world community in 1948. The right to adequate housing has been consistently re-affirmed as a distinct human right by various bodies in the UN system, Istanbul Declaration and the Habitat Agenda, national constitutions, and civil society organizations across the world. Components of the right to adequate housing are legal security of tenure; availability of services, materials, facilities, and infrastructure; affordability; habitability; accessibility; location; and cultural adequacy.[12] Many researches have focused on quality of life related to adequate housing in the literature.

Quality of Life

The concepts of urban livability and quality of life enjoy a great public popularity forming a central issue in research-programs, policy making and urban development. There are many factor affecting

quality of life. Gross Domestic Product (GDP), measuring economic development has long been considered the best predictor of Quality of Life (QOL) in international comparisons. In recent decades, researchers have tried to find a better measurement of country QOL (e.g. Human Development Index, Legatum Prosperity Index). Few indexes have been proposed for measuring QOL at the scale of cities, for which there is a lack of tools.[13] Quality of life indicators include the basic needs and desires of people. The measurement of quality of life is usually undertaken using different kind of indicators such as overall crime index, vehicle per person, literacy rate, population, density[14], size of house, the distance to a bus stop, and the quality of public transportation.[15] Residential and neighbourhood satisfaction is an important indicator of housing quality and condition, which affects individuals' quality of life.[16] In a complex decision-making process, households select their residence by considering various criteria. Several academic studies have sought to understand how consumers make their housing decisions and to explore locational preferences or housing preferences of people.

SOCIAL DIMENSION

Social characteristics of urban neighborhoods is a complex phenomenon with multiple space, time and attribute dimensions. Many researches try to explore the urban social patterns through investigating different social groups; especially vulnerable groups such as elderly people, migrants, homeless, as well as social cohesion or segregation between them. Housing needs of these social groups have also been paid attention to within literature, as they effect the housing policy in many countries.

The ageing issue is becoming a global concern as the baby boomers born after World War II are entering into the elderly age cohorts. ''Continuum of care'' and ''ageing in place'' are seen as the guiding principles of elderly policy. The provision of housing to the elderly is always of a special concern. It is important to understand how various attributes, from residential to institutional, influence the housing satisfaction of the elderly people and their location choices[17].

Migrants' housing preferences play a crucial role on shaping housing demand. There are many crucial determinants, such as employment, affordability and social networks, affecting relocation decisions of people.[18]

In developed world debates on homelessness, increasing focus has been placed on the concept of home as a way of further understanding the experience of homelessness and to highlight appropriate responses. Tipple and Speak argue that a single definition of homelessness may be inappropriate and that a range of definitions may be needed to underpin interventions and policy development. They use some criteria for homelessness such as lifestyle, location, permanence of occupation or security of tenure, housing quality and welfare entitlement. It would be beyond contradiction, which poverty is the main underlying cause of homelessness.[19]

Social cohesion within a neighborhood, which refers to harmonious interactions and mutual support among residents, is integral to the social sustainability of the neighborhood and results in residents' satisfaction with life. However, existing research is divided about the interplay among neighborhood homogeneity, cohesion and life satisfaction. For instance, one view suggests that neighborhood heterogeneity, rather than homogeneity, is favorable to sustainable development.[20] On the other hand, residential segregation is an urban phenomenon, which can be defined as the allocation of residential space by state or market mechanism to a particular social group and the consumption of that space by the social group. It has been argued that residential segregation has its various causes and consequences. It may occur because of social prejudice, malfunction of an economic system[21] , political, economic and social transition[22] , globalization and its neoliberal economic approach.[23] The response to spatial segregation should be based on an understanding of local needs and factors such as age, gender, socio-cultural and economic activities.

HOUSING POLICY

Housing policies have passed through many permutations in the last 50 years, based on differing, even conflicting approaches, which have not really solved the housing problems faced by the majority of the world's population. For most people, the challenge of housing is a simple one: the need for a healthy shelter at an affordable price.[24]

After 1945, a series of developments led to the emergence of a field of action that we may refer to as international housing policy. Agencies of the governments, notably the British Colonial Office, US Housing, Home Finance Agency, became active in the international housing field. These agencies offered guidance and assistance to national governments. The policies that agencies recommended and the programs that were actually implemented by national governments in the developing world could be different. Although their purposes differed, they consistently endorsed a mixed strategy of self-help and market supports. Self-help was given priority from the mid-1960s to the 1980s, when the balance shifted to market 'enabling'.[25]

Informal housing solutions have been propagated by many practitioners and academics of the 1970s and 1980s, following the path-breaking work of self-help housing pioneers like John Turner. Such self-managed construction had the great advantage that the households could decide for themselves when to expand or improve their dwelling, in accordance with their needs and priorities.[26] In the 1970s his ideas influenced the World Bank to initiate major sites-and-services projects. In sites-and-services projects, low-income groups were given plots of land including basic infrastructure, such as electricity, drinking water and sewerage.[27] During HABITAT I (1976), the focus was on self-help ownership on a project-by-project basis. Since the 1980s, international research and policy agendas focused more and more on a broadened habitat approach and attention for self-managed house construction gradually declined. Yet, self-help housing is still a widespread phenomenon, although mostly unattended or even ignored by governments.[28] But, some researchers underlined the disadvantages of selp-housing. They are self-initiated urban settlements, characterized not only by informality, irregularity and illegality, but also by their flexibility and their resilience.[29] In 1980s, however, there was an almost universal acceptance of reducing the role of the government in direct provisory roles in the economy and increase reliance on the private sector. This was particularly advocated by the World Bank with enabling strategy for private market activity in housing provision in developing countries. Since the late 1980s, the UN-Habitat has promoted this enabling strategy for its global goal of adequate housing for all. The strategy contends that markets should be the primary housing delivery mechanism and that the public sector's role is to introduce incentives and facilitate housing actions by other actors, through partnerships of local government, the private sector and nongovernmental and community-based organizations (NGOs and CBOs). The strategy accepts the limitations of the market for housing the poor. It stresses the need for government to recognize and upgrade informal settlements and to develop innovative approaches to low-income housing.[30] Meanwhile HABITAT II (1996) pointed out that the provision of adequate housing for all requires action not only by government but by all sectors of society including the private sectors, non-governmental organizations (NGOs), communities and local authorities as well as partner organizations and entities of the international community. Four decades since HABITAT I, many developing countries have undergone social, economy and political transformation. Globalization, demographical changes, and rising income level since 1970s clearly had influenced housing provision system. Croese emphasizes that the supply-driven housing programs are currently emerging in many countries. There is a need to query and further study the causes and drivers of the current return to supply-type provision practices. In recent years, UN-Habitat has come to acknowledge that previous enablement policies have not effectively tackled the housing challenge and that there is a need for government to reassume a leadership role in housing provision.[31] Consequently, the role of different actors in providing housing has been discussed for a long time. Two paradigms are identifiable in terms

of approaches to housing development. They include the "provider" and the "enabling" (supporter) paradigms depending on the extent and nature of public involvement in housing delivery, particularly, to low-income households. The "provider" paradigm advocates that public authorities essentially should control the production of houses in order to reduce housing deficits and improve the quality of housing.[32] For Harris and Giles, there are only a limited number of ways in which governments can act to improve housing conditions for low income households. Governments can build housing cheaply, usually for rent; they can help households to build their own homes; or they can try to make the housing market more efficient at delivering affordable homes. Some governments' efforts in providing adequate, affordable and quality houses for all income groups with emphasis on the development of low-and low-medium cost houses, two main problems have developed in the housing sector. First, quantitatively the number of housing provided do not meet the demands for the low-income group. Second, qualitatively the type of housing has not been satisfactory to the family housing needs, comfort, social, cultural and religious needs. Many researchers provides an assessment of residential satisfaction of public housing as well as social problems and exclusion in these areas[33]. On the other hand, the enabling paradigm does not favour government production of houses, preferring instead, the encouragement of householders, small scale builders and corporate firm developers by facilitating and enhancing their ability and capacity to deliver houses or services. Some researchers argue that low-income housing development requires a careful combination of public and private efforts, thus demanding a careful articulation of multiple participants. Public private partnerships, for instance, have been seen as a promising way to integrate the advantages of the public sector and private sector.[34] Yap emphasized that the housing problems of the urban low-income population cannot be solved unless the urban poor have access to urban land, but this requires urban planning and government intervention in the urban land market. It has been emphasized by many researchers that cities have been put at the forefront of neo-liberalization especially since the early 1990s with the increasing importance of market led development. Urban governing institutions have been restructured so as to respond more to the need of securing private investment and creating business friendly environments. However, most of these efforts to promote a marketable, modern city through megaprojects, reinforced urban spatial and social inequalities.[35] For Yetişkul, urban redevelopment policy has also become an increasingly central focus of neoliberal urban policy driven by inter-urban competitiveness and urban entrepreneurialism.[36] As neo liberal public policies shape the skyline of cities in developing nations, the initiative towards development of affordable housing for the disadvantaged group remains largely unaddressed. In many developing countries, insufficient provision of affordable housing for a fast growing urban population is leading to informal squatter settlements and slums.[37]

Informal housing is still an important phenomenon today. Bredenoord and Lindert emphasize that governments in the developing world face with immense challenges in the field of housing provision for the urban poor. Faced with the lack of so-called conventional or formal housing solutions, the urban poor have virtually no other option than to resort to unconventional or informal modes of housing provision. Slums pose a significant challenge for urban planning and policy as they provide shelter to millions of poor urban dwellers in developing countries.[38] Slum upgrading is accepted as a priority for sustainable development. Slum upgrading has politic, socio-economic and physical elements. It can focus on improvement of the physical services, increase the quality of housing as well as enhance the job opportunities.[39] On the other hand, slum clearance and resettlement schemes have increasingly become a feature of everyday life in some countries. The right to decent housing can involve relocating slum families to places that not only fulfill the precepts of adequate housing but also enhance the self-respect and quality of life of these families. However, resettlement can also heighten their vulnerabilities.[40]

Issues of homeownership and rental housing also affect housing policy in many countries. Public policy that encourages homeownership has often been justified by claims that it has a variety of benefits to both individual and society. It has been argued that homeownership is strongly correlated with income, education, employment types, liquidity constraint and relative price of owning. Many studies investigate the factors affecting housing tenure choice, such as gender, marital status, occupation type, educational level, family size, permanent income, demographic background, social attributes, and economic factors.[41] Although the general policy trend across the globe since 1970s has been in favor of home ownership, across the world, approximately 1.2 billion people live in rented accommodation. For Gilbert, rental housing is an essential ingredient in any shelter program. Renting provide a shelter for many groups in society, such as the young, migrants, recently independent households, job seeker[42]. Tipple argued that instead of concentrating on the small and relatively inefficient formal housing supply at the top end of the market, attention should be turned to enabling the parts of the housing supply system that successfully provide most housing the informal builders and construction artisans. Finance for rental housing is a potentially fruitful direction to increase supply at the lower end of the market.[43]

SUSTAINABILITY

In recent years, the concept of sustainability has become central in housing debate. In fact, the concept of sustainability may be one of the most overused and misunderstood urban policy component in use today. Choguill (2007) attempts to clarify the concept of sustainability. Sustainability includes the need for poverty reduction and slum eradication, as well as the broader goal of environmental preservation and the importance of developing channels for making viable finance available. Of course, without improvements in employment opportunity and incomes, whatever is done within the housing policy area is likely to lead to disappointing results. Any future policy package designed to achieve sustainable housing would necessarily have to be designed to meet three primary objectives. The first of these is that future policies must provide the basis for household improvement. The second objective of the policies which could result in sustainable housing improvement are concerned with the empowerment of poor people. The third objective of such policies must be to psychologically give this lower segment of the urban society a feeling of self-worth. However, much of the sustainability debate centers around the issue of the environment and particularly on the way that the built environment impacts on the natural environment.

Regarding to sustainability, there are many researches investigating the measurements to be taken from city to building scale. The design of sustainable cities is a key issue that addresses most of the global environmental problems. Eco and low-carbon cities have been burdened with expectations of solving the environmental problems since the 1990s.[44] Researchers contribute to identifying strategies to reduce energy consumption and greenhouse gas emissions. Qin and Han argue that higher population density, mixed land-use patterns, better accessibility to public transportation, and job-housing balance are important planning parameters that reduce household carbon emission.[45] It is argued that increased construction activity could end up with negative economic, social and environmental impacts. Recent years have seen an increased focus on the role of house construction within the broader agenda of sustainable development and climate change[46].

Over the last two decades, urban regeneration has been widely recognized as a comprehensive and integrated vision and action to resolve the multi-faceted problems of urban areas and to improve the economic, physical, social and environmental conditions of deprived areas. Ercan argues that the preset principles and measures for sustainable communities may change from one locality to another. Alternative models for localities need to be searched according to the social, economic, political, cultural and institutional structures and characteristics of localities. However, a broad section of literature

suggests the need for questioning the impacts of urban regeneration projects as an integral part of neo-liberal policies.[47]

Urban sprawl and city congestion have become the inevitable development trend in the process of economic growth. The pursuit of better living conditions and the expansion of car ownership induce the outward spreading of a city and its suburbs. Such encouragement of sprawl development leads to low-density land-use patterns. Residents of sprawling neighborhoods also tend to emit more pollution per person and suffer more traffic fatalities. The rise of New Urbanism brings new energy and new ideas to communities that commit to manage growth. Planners begin to connect more strongly with affordable housing advocates and public health professionals, broadening their focus beyond the more traditional set of issues revolving around land-use, transportation and the environment. All of these changes contribute to the transition into the Smart Growth movement, which concentrates growth in compact walkable urban centers to avoid sprawl. New Urbanism and Smart Growth have been seen as alternative approaches to suburban sprawl in urban planning and architecture. Planning principles of New Urbanism are walkability, connectivity, mixed-use & diversity, mixed housing, quality architecture, traditional neighborhood structure, increased density, green transportation, sustainability, and quality of life. New Urbanism and Smart Growth are relatively new approaches to urban design that deals with environmental problems, housing issues, and community well-being.[48]

CONCLUDING REMARKS

This paper has focused on the main housing debates which have been remained in the agenda of Habitat Conferences since 1990's. As a methodology, the journal of Habitat International, which was established in the Habitat Conference in 1976, published between 1996 and 2017 as well as reports of Habitat II and Habitat III have been overviewed.

One of the outstanding debates in housing issue is the concept of «Adequate». It has been discussed so much with many attempts to measure it, such as quality of life indexes using different parameters. However, it is not easy to evaluate the adequacy as it includes many subjective and objective indicators. Housing for lower income groups has always been an important issue in the agenda. Neoliberal housing policies, some important result of these policies, such as megaprojects and urban regeneration, have been discussed and criticized within this framework. In the context of neoliberal policies there is a risk to disregard the needs of poor people. So, we may have to address and discuss their increasing problems including housing in the near future. Moreover, the role of different actors, such as government, in housing delivery, seem to be continuing this discussion.

Housing need of different social groups affects the housing policy in many countries. When ageing population is considered, housing problem of elderly people will take more attention even in countries where family relations are strong. Needs and problems of different social group require focus on social cohesion and integration, which are emphasized in the literature quite often. Especially, migrants continue to be a global concern when economic, social and politic developments in the world are regarded.

Discussions related to effects of technology on housing and social relations are much limited in the literature when compared with other issues. But it can be estimated that these issues are going to take part in the literature more in the future.

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MASS HOUSING ESTATE LOCATION IN RELATION TO ITS LIVEABILITY: BUDAPEST CASE STUDY

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INTRODUCTION

The conditions of mass housing estates in post-Communist countries have long been of concern for their inhabitants, while they have also begun to generate research interests. Some authors advocate for upgrading and renewal of these buildings[1]; yet, others see them as a mass of aesthetic and socioeconomic burden reminiscent of the past, centrally planned economy, and therefore propose gentrification and/or urban regeneration to replace them.[2] However, economic realities often dictate the social housing policy of the day. While in most Western European countries mass housing constructed from prefabricated building elements represent about 8-10% of the housing stock, in Central and Eastern European cities, this ratio varies between 15 and 80%.[3] This is the consequence of a complex social, economic and environmental legacy of the previous political system.

Through the case of Budapest, this paper explores the conflicts between micro and macro scale development of prefab housing estates and how they are influenced by the criteria of liveable urban environment. The main factor that defines today's housing market situation with respect to prefabricated panel housing stock in Budapest is the location of its micro-districts.[4] Location is essentially the basis for residential housing market.[5] In this way, the hypothesis of this paper is based on the premise that purports location to be able to override any other advantages of a housing estate, suggesting a rethink of today's housing rehabilitation process in practise. When evaluating liveability of housing estates in Budapest, location has been found to play a fundamental role.

Overview

At the turn of the twentieth century there was a need for urban planning reforms which were capable of improving the then living standard and also offer an effective and quick architectural solution to the increasing shortage of housing. By the end of the 1930s, the answer of the architectural profession to the pressing problems were delivered at a CIAM (International Congresses of Modern Architecture) conference in 1928. In 1933, the functional city theory was laid down in the Athens Charter, after which this typified design and construction gained ground.[6] These series of events did not just define Western Europe's architecture in the subsequent years, but were also reflected in the Eastern 'block', including the Soviet Union. Hans Schmidt, a German academic, who served as an advisor to the then Soviet

government, developed an ideal plan he called the "socialist residential complex" that, though based on a functional unit, operated with a quantitative method during planning. [7] In this way, blocks of flats and services in a living unit were calculated based on the number of inhabitants. The interpretation of this conception was in line with the Soviet ideology, because community scale solutions were embraced against individualism. The concept was further improved and advertised as equality and finally became one of the central tenets of the Soviet political structure after World War II in Central and Eastern Europe. In their homogeneity and plot structure, housing estates formed a 'whole' image of the cities. Mass housing estates could have from 100 inhabitants to more than 50,000 in Budapest; the largest estate is Újpalota with 70,000 inhabitants.[3] The large-scale nature, the building technology and other socioeconomic characteristics of these units influence the housing market and portray an image of their liveability.

Figure 1. Construction of Óbuda Housing Estate in 1967 – prefabricated modern housing replaced the former historic urban fabric

Technology

To realise the large-scale housing development the building construction system had to be in progress. In 1949 the first set of housing developments were constructed using the traditional construction methods. After the large-scale housing estates entered the urban planning practice, the first experiments showed up in many professional practices as well. In Central and Eastern Europe, prefabricated big panel technology was appreciated as the most efficient method. Prefabricated big panel technology is a special construction method; the building construction is produced from concrete with room-scale elements prepared in house factories. The whole construction process, including the transportation and assembling of block elements were pre-planned and mechanised with the help of highly skilled workmen. The process was a very well-engineered technology that was able to maintain the same quality, at the same maximum mass housing production rate. The speed of construction was made possible as the element set contained not just walls and slabs, but completely equipped bathrooms were prefabricated in a factory and subsequently lifted into position on the construction site. In Budapest in

1961 the first 15-year housing development plan was commissioned to erect thousands of new apartments. To cope with the resulting demands, three house factories were built around the capital, with a fourth added as demand increased. In the initial period, the technology came from the Soviet Union. However, in the 1970s, a so-called Larsen-Nielsen Danish panel housing factory was built to offer alternative types and sizes of apartments.[8] Due to this technological method, the largest-scale residential development of the twentieth century came to fruition. Today in Europe, approximately 176 million people live in prefabricated blocks of flats, which are generally found in smaller or larger housing estates. In Hungary, the number of inhabitants of prefabricated housing blocks is 1.9 million, who live in 837,000 apartments, 33% of whom are residents of Budapest. [9]

Socioeconomic situation

While in Western Europe social housing provides shelter for the underprivileged members of the society, in Eastern Europe virtually most groups of the social stratum are present. In Budapest between 1965 and 1985, in response to an acute shortage of housing, nearly 75% of the capital's annual budget was spent on housing construction.[8] Consequently, a significant stock of the block of flats were state-owned. Over time, some of them were financed by National Savings Bank (OTP), while others were bought by private investors. This ownership structure was no different compared to the current practice in Western European countries. However, after 1991, as the Eastern part of Europe switched to democratic political systems, the housing regimes also changed. One of the most important moments of this transformation after the change of the political system was the privatisation of the housing stock. At the national level only 5-6% of prefabricated block of flats remained in government ownership.[10] The transformation of real estate ownership had led to significant problems. The most acute problem was the increasing costs of heating these blocks of flats, due to technological shortcomings, which surfaced in housing estates built in the 1970s. [11] The inhabitants of these estates were simply not able to pay for the maintenance of their own apartments; in some instances, residents could not cover the costs of maintaining the communal areas of their living environment. For this reason, by the early 1990s and through the year 2000 the conditions of housing in most of the estates had deteriorated in Budapest, though a condition survey of the block of flats predicted a lifespan of between 50-100 years.[3]

Towards actualities

The government and professionals recognised the difficulties around the housing stock and with the help of the National Panel Program and European Union funding schemes, the refurbishment of these block of flats could commence.[10] However, after many successfully presented renewal projects, an assessment of how the investment reflects the global situation of housing estates nowadays is required. While some neighbourhoods can achieve several liveability goals through renewal processes, accessibility can only be changed through large scale urban development over an extended period of time. [4] In this respect, the principal issue that define today's housing market situation of the panel stock in Budapest is the location of some micro-districts.

METHODOLOGY

The quality of housing estates can be assessed from a range of perspectives, while the surrounding environment can be rated at different urban and architectural levels. This research is based on a three-scale analysis system, that evaluates housing estates from the city (development and planning), neighbourhood (planning and urban design) and architectural levels (design and technology). [4] The current renewal process is concerned with an obsolete technology (scale: "building"), which typically focus on changing the windows and the insulation of the building envelop to reduce the effects of thermal

bridge and internal technical building system interventions to reduce the utilities cost.[12] Nowadays, it is becoming increasingly necessary to rethink housing estates as sustainable neighbourhoods (scale: "neighbourhood").[13] It is necessary to devise new development criteria that could attenuate the current situation; however, a sustainable neighbourhood is defined today by size.[14] This study brings to bear the characteristics of housing estates in large urban areas in which the location within the city is the most important component. Location is a complex notion, which defines position of the housing and its accessibility through urban infrastructure that is capable of overshadowing many other quality preferences.

CITY OF BUDAPEST	NEIGHBOURHOOD	BUILDING

Figure 2. Three-scale analysis of housing estates [4]

Location

Location is a basic and intrinsic feature of a housing estate that generally determines its prospects in the housing market. To analyse the situation of housing estates in Budapest, two main principles will be presented. *Position* will present Budapest's basic urban structure to understand the differences between areas, while *accessibility* is based on the capital's traffic system, which is particularly important, because many of the public transport lines were developed alongside the mass housing projects.

Position

Each housing estate has a different geographic position, one may be located in a high-quality mountainous area and others may be neighbourhoods of industrial or peripheral zones. During the research, we focused on the current administrative area of Budapest that was formed in 1950, when 23 neighbouring settlements were connected to the historical Budapest. The capital demographically came up against difficulties, because it soon grew to three times of its original size over a short period of time, with a current population of 1.8 million people.[15] As a result, successive governments have had to formulate new strategies to address social, economic and environmental issues.

From urban planning perspective, the Hungarian housing development followed somewhat international trends, when the new scale of the city organisation was conceived and constructed. Building up a unit meant not just housing development, but also implied the construction of the associated infrastructure and service outlets. It is not a coincidence that they were called new towns or micro-district in the UK and Groβwohnsiedlung in Germany, Микрорайон (micro-disctrict) in Soviet Union and 'lakótelep' (housing estate) in Hungary.[4] The housing estate developments fundamentally changed the dwelling stock in Budapest. The listed 121 units, including 7 huge estates account for 35% of Budapest housing stock. In most Eastern European cities, we can find these housing estates close to the historical inner part of the city. Obviously, the position of new housing estates in a capital city creates a ring-like location around the inner city, and also chronologically show the building processes toward the outskirt area.[11] New construction projects were made possible either after the demolition of built-in areas or by taking new zones into the city fabric. This was how mega-structures, such as the Újpalota housing estates, located 8km from the inner city of Budapest, were constructed. Sampling was conducted by selecting housing estates, which had more than 2000 apartments; accordingly, the study shortlisted 24 housing estates in the capital of Hungary (Figure 3).

The zoning map of Budapest serves as a basis of the study. After the 1994 Master Plan, Budapest is segmented into five zones that reflect the urban development, city usage and the relative unity of urban and architectural form.[15] In this sense, we can identify the five zones as: historical inner city (1), highland areas (2), section of the River Danube (3), transition areas (4) and outskirt (5) (Figure 3).

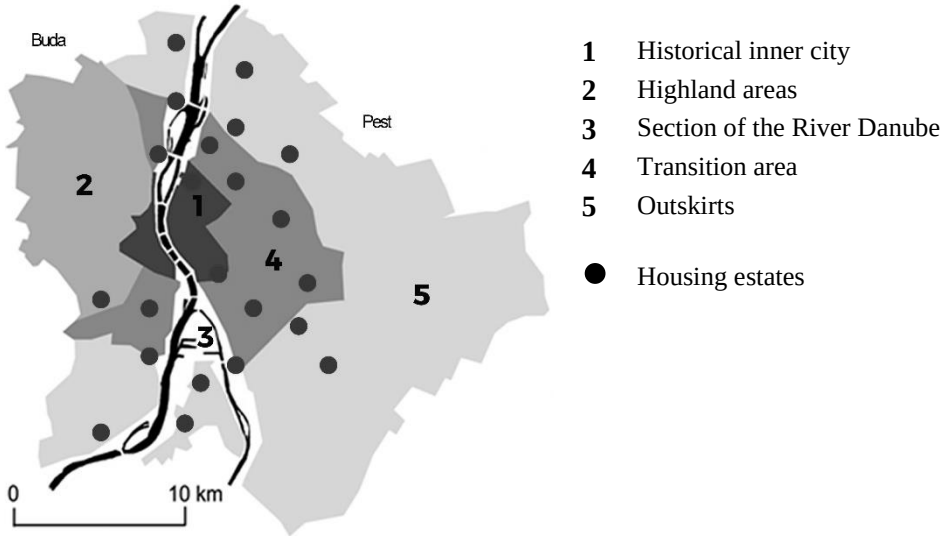

Figure 3. City zones of Budapest and position of housing estates / drawing by authors

Each zone defines a different urban position. At the same time, the zoning system is an indication of the liveability of a large part of the housing estates. In the course of this study, the urban positions of housing estates were reviewed by the displayed zoning structure.

Accessibility

Accessibility is a major issue in Budapest. The development of metro lines in the 1950s and 1960s shaped the structure of the city, by connecting most of the mass housing projects. The review of a 1970s development plan showed 9 metro lines that could have connected the city centre and the housing estates. For instance, Metro line 2 was completed according to plan, with all the stations. However, the construction of Metro line 3 was suspended, meaning the line could not reach the lastly built housing estates in Budapest Káposztásmegyer, which have since been grappling with accessibility issues until the present time (Figure 4).[16] After 40 years of delay the recent commissioning of Metro line 4 in 2014 has transformed the connected housing estates with respect of accessibility. The block of flats located along this new metro line underwent markedly appreciation in market value, which confirms the importance of accessibility of housing estates. But earlier versions of the plans did not materialise, as some rapid transit and commuter rail supplement the public transport system in Budapest today (Figure 4).[17]

The accessibility of housing estates is examined by their linkage to the main public transport hubs. These hubs are four main squares on the Small Boulevard around the old historical inner city: Deák Ferenc Square (D), Astoria Square (A), Kálvin Square (K) and Fővám Square (F), where the main metro, tram and railway lines intersect (Figure 4).

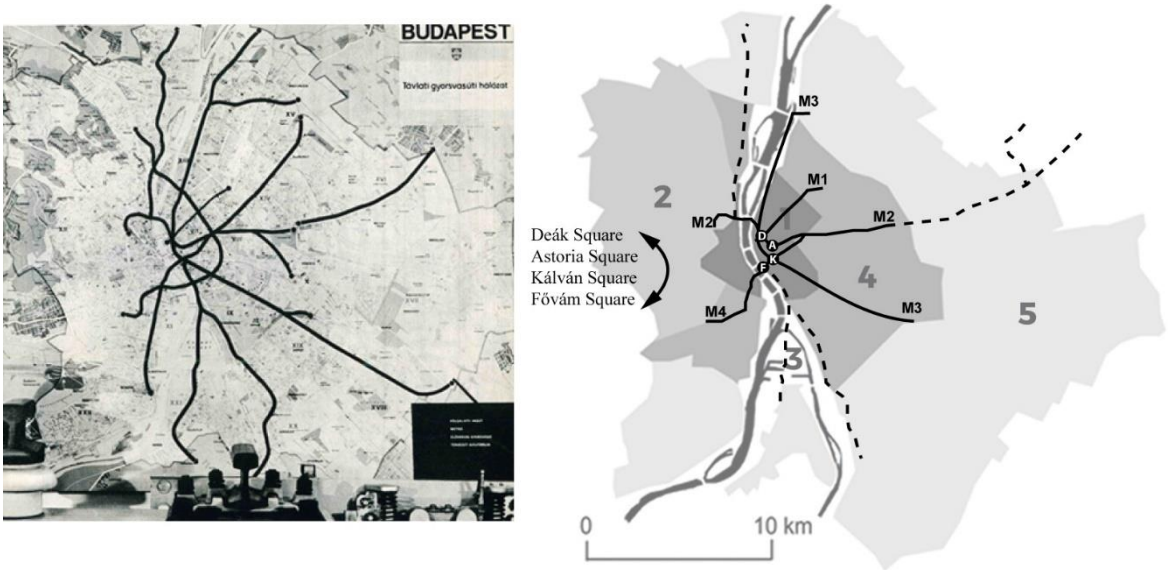

Figure 4. Public transport development plan from 1970[18] and metro lines (continuous line) and additional lines (dashed line) in Budapest in 2018," DAKF" transport linkages, / drawing by authors

RESEARCH RESULTS

After the determination of these two basic elements, the study collated the property prices of the housing estates with respect to their location. The data of selected units is imported into a database system that is presented in Figure 5.

Firstly, we reviewed the position of the units according to zoning map. It can be seen that all of the 7 major estates (Óbuda, Békásmegyer, Újpest, Kőbánya, Újpalota, Kispest, Csepel-Pesterzsébet) are located on the peripheral area and there are only a few units in the inner city (zone 1).[8]

Number	More than 2000 apartments	Year of construction	District	All in all1960-1990	Real estate prices	Location								
						Position (zones)					Accessibility (min)			
					2017	1	2	3	4	5	BKV/ Deák square	BKV/ Kálvin square	BKV/ Astoria square	BKV/ Fővám square
1	Óbuda Centre	1968-1975	III.	13 529	392 392 Ft			x	x		**30**	40	31	32
2	Békásmegyer	1971-1983	III.	17 973	300 934 Ft					x	35	58	**32**	51
3	Kaszásdűlő	1981-1986	III.	3 312	374 072 Ft				x		30	37	**23**	43
4	Pók Street	1984-1990	III.	4 447	399 405 Ft			x			**32**	45	33	40
5	Újpest	1969-1986	IV.	16 917	319 711 Ft					x	**17**	20	23	28
6	Káposztásmegyer	1982-1990	IV.	5 688	349 155 Ft					x	31	**36**	40	43
7	Józsefváros	1957-1981	VIII.	2 773	344 857 Ft	x					13	**8**	16	18
8	Kerepesi, Gyakorló Street	1983-1986	X.	3 033	346 073 Ft				x		25	30	**24**	32
9	Kőbánya-Centre	1979-1980	X.	2 390	327 403 Ft				x		**21**	25	28	23
10	Óhegy / Harmat Street	1961-1982	X.	2 542	364 280 Ft				x		33	40	**28**	40
11	Újhegy	1974-1978	X.	6 968	**243 397 Ft**				x		31	**30**	35	36
12	Kelenföld-Centre	1966-1983	XI.	9 297	422 839 Ft				x		19	14	18	**9**
13	Fehérvári Road/Albertfalva	1974-1979	XI.	4 381	420 866 Ft				x		35	31	29	**24**
14	Gazdagrét	1983-1989	XI.	4 968	**442 592 Ft**		x				34	**30**	36	26
15	Őrmező	1972-1984	XI.	3 094	414 545 Ft		x				29	**22**	30	18
16	Vízafogó	1982-1989	XIII.	2 672	**443 024 Ft**	x		x			**10**	13	16	21
17	Gyöngyösi Street	1979-1980	XIII.	2 784	384 470 Ft				x		**13**	17	20	24
18	Füredi Street	1967-1978	XIV.	12 133	369 776 Ft				x		28	35	**27**	35
19	Újpalota	1968-1977	XV.	15 886	302 248 Ft					x	34	36	**26**	31
20	Rákoskeresztúr Centre	1980-1989	XVII.	7 634	302 703 Ft					x	33	**33**	41	49
21	Állami/Havannna	1977-1985	XVIII.	6 222	154 716 Ft					x	43	**41**	47	47
22	Kispest Centre	1977-1986	XIX.	11 467	296 004 Ft					x	**31**	39	39	37
23	Pesterzsébet Centre	1976-1983	XX.	7 820	277 627 Ft					x	38	33	37	**31**
24	Csepel Centre	1968-1982	XXI.	10 568	288 182 Ft			x		x	37	33	38	**30**

Figure 5. Research result database

Additionally, housing estates in zone 2 are more conspicuous because of their riverbank connectivity. The same applies to housing estates in zone 4, where the building blocks overlook panoramic view to the mountain area. The accessibility of housing estates is typified by the travel time from the assigned 4 main hubs. The data shows the shortest and longest time spent by public transport travelling.
The highlighted units reflect not just the time-distance relation, but it also visualises the metro lines in the city (Figure 6). To support the hypothesis, the study made reference to the apartment prices per square metre from 2017 on the selected estates and search relation across the three parameters, namely accessibility, position and price, for each unit.[19]

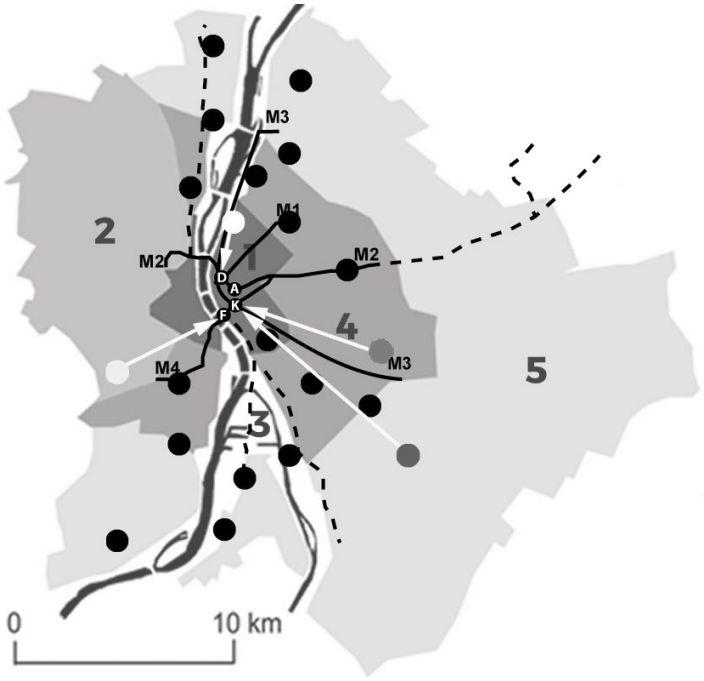

Figure 6. Studied housing estates according to the lowest (light) and highest (dark) property prices, / drawing by authors

In the outskirt zone the furthest estate has the lowest prices, while housing estates with the best traffic connection on a riverbank area, are associated with highest prices. Furthermore, it is evident that in some instances, access to natural green areas overrode the importance of accessibility. However, the position of the researchers of this study is that access to natural green areas only partially explains this discrepancy. Further research may be needed to unpick the exact cause-effect relationship across the three parameters.

Results

The Vizafogó (row 16, Figure 5) housing estate is one of the most valuable residential areas with its direct metro connection, its proximity to the inner city and its riverside position. Interestingly, during the renewal process, the emphasis was on the public space rehabilitation and the modernisation of the building structures were far from complete at the time of data collection in case of Vizafogó.[20] The property prices in this housing estate were generally well above the average market prices due to its green space quality and connectivity to the inner city.

Figure 7. Vizafogó housing estate in 2017 and Havanna housing estate in 2014

Havanna housing estate (row 21, Figure 5) has the lowest real estate prices due to its very peculiar situation. As the number shows, transportation connectivity is in an abject condition. Inhabitants have to change transport several times to commute, hence it is a highly segregated outskirt area. While evaluating this unit, it was important to note that it has been inhabited by low income population right from the onset and even today by ethnic minority groups. After several attempts, at the turn of the millennium, the housing estates applied for various social and building rehabilitation grants, which enabled vital renovations on the Havanna housing estate, and currently has some of the best built environment units, from the selected estates.[21] While continuous social rehabilitation projects have contributed to the success of the regeneration of the place, these efforts seem to have reached their limits.[22] For as long as Havanna is separated from the dynamic public transport system, the change of population is very unlikely, social mobility is out of reach and the housing estate will remain a slum area.

From accessibility perspective, the best housing estate is the Józsefvárosi unit (row 7, Figure 5) in district VIII, the Szigony quarter. Historically, district VIII was characterised by its diversity and in the last 20 years, it has undergone dramatic changes. While the Corvin quarter – neighbourhood of Szigony – is developing dynamically as the biggest ongoing investment in Budapest, [23] the other parts of the district still have inhabitants with rather low social status. A remarkable process took place in the district, because despite the renovation in some parts of the district, the dwelling stock degraded in quality. This is coupled with the fact that a significant proportion of the population belong to the ethnic minority groups.[24] Nevertheless, property prices were well above the average market value. This phenomenon happened against the backdrop that the surrounding new developments transformed the earlier status of the district, and a change in the composition of the population slowly began, as new homeowners started to anticipate the complete renewal of the district. The question is, which investors will shoulder the revitalisation of a segregated housing estate in the historical city centre, where the demolition of a block of flats with 11 floors would not simply be a construction issue, but a social problem that would agitate the public and design profession's opinion. There are opinions that suggest the city government may decide on a high-quality rehabilitation plan in order to create a liveable district VIII.

The second most expensive housing estate is the Gazdagrét (row 14, Figure 5), which is in a relatively isolated area. While public transportation is suboptimal in the area, it is probably one of the most popular housing estates in Budapest.[25] Its inhabitants basically consider reference to this part of Budapest as a 'housing estate' to be derogatory. This kind of public perception also, implicitly depicts the contemptuous attitude of Hungarian society to people living in this type of dwelling.

Figure 8. Gazdagrét housing estate in 2017

Whether this negative opinion is justified or not, the fact remains that Gazdagrét is embedded in the mountainous part of Budapest, while being close to the capital's circulation. Moreover, it is a recreational green paradise, where many parents would like to raise their children.

CONCLUDING REMARKS

The liveability position of a housing estate can influence many liveable goals such as safety, social integration, diversity and cultural identity, preserving its cultural value, balancing mixed land use, providing a variety of services, and the presence and protection of green spaces.[26] In case of Budapest's housing estates, most of these liveability characteristics were present. However, these do not necessarily translate into higher property prices. The thriving units' prices could increase to the levels of the newly constructed areas, while the less popular ones underachieve on the presented list. Although the government and also the EU offer different supports to renew in micro scale, in the case of this panel building dwelling, there are only a few exemplary macro scale developments[14]. The position is an unalterable characteristic of a unit, and the infrastructure of a city can be developed or transformed in a long-term process, so the estates with high accessibility problems are generally disadvantaged. The most questionable is the destiny of those huge housing estates in Budapest, to which public transport development was planned at the time of their construction, but which were not eventually realised. Such housing estates are therefore isolated from the mainstream social, economic and cultural circulation of the city. Above all, these housing estates cannot rely on the changes of the surrounding areas that can generate positive processes, while the inner units can only make changes for their immediate neighbourhood city blocks, which will be continuously developed over time. All of these demonstrate that in Budapest, it is not enough to focus on micro scale renewing, as there has to be a balance between micro and macro developments for a liveable urban environment.

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NEIGHBOURHOOD COOPERATIVES. A MODEL FOR THE COLLABORATIVE MANAGEMENT OF THE RENEWAL AND MAINTENANCE OF URBAN AREAS

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INTRODUCTION

This paper tries to give response to liveability problems of twentieth-century neighbourhoods in need of comprehensive rehabilitation, facing challenges posed by the international community such as sustainability, climate change and energy agencies, and focused primarily in the urban environments.[1] Research focuses on management processes for the regeneration of urban environments, aiming to the humanization of the urban habitat and prioritizing participatory solutions. The result is the theoretical development of a management model -based on the idea of a cooperative entrepreneurship- to face the issues of conservation, maintenance and modernization of the communities.

The project has proposed the implementation of a model of Neighbourhood Cooperative (NC) in order to manage neighbourhoods' comprehensive rehabilitation, analysing the parallel benefits of its implementation, and obtaining new and better services for its inhabitants. The idea of management associated to the cooperative model is understood from two different points of view: on the one hand, as a mechanism of rehabilitation and maintenance of the neighbourhood's buildings and spaces; on the other hand, the model constitutes a very suitable tool to enhance the solidarity between inhabitants, to obtain benefits and economic savings, to stimulate better understanding of the needs of others (share, communicate, collaborate), and to establish mechanisms for optimization and common management of daily community expenses such as cleaning, transportation or maintenance services.

In parallel to the renewal and updating of residential buildings and public spaces, the neighbourhood cooperative model aims to create one platform able to promote the activation of life in disadvantaged neighbourhoods, generating both business and social fabrics, and building collaborative work networks that can help to solve employment and dwelling issues.

The problem of urban regeneration in the global crisis

The political-administrative discussion and the current legal framework are clearly oriented towards meeting the European objectives of the 2020 horizon. In them, the consolidation of the low-carbon economy as the central axis necessarily translates referred to an urban scale, into several measures to reduce emissions, improve energy efficiency and incorporate renewable energies. The implementation process of these measures is extremely complex, since it implies a radical change in the way of operating, for decades, regarding to the model of city, infrastructures, energy and mobility.

Unfortunately, these strategic policies often collide head-on with the socio-economic reality, particularly in a country such as Spain, which has been badly hit by the financial crisis and an oversized housing sector. According to the National Statistics Institute data, the family income in 2013 fell by 2.3 per cent compared to 2012, 22.2 per cent of the Spanish population was at risk of poverty, 16.1 per cent of Spanish families make ends meet with great difficulty, 42.4 per cent of the households cannot handle unforeseen expenses, and 10.2 per cent of households had delays in payments related to housing.[2]

Faced with the harsh reality revealed by these data, it is obvious that the expense of housing renovation -whether for updating or to comply with the legal duties of maintenance and conservation- is an extraordinary expense that many families cannot cover. If we add the cost of universal accessibility measures, as well as the improvement of the envelopes or the incorporation of renewable energies proposed by numerous demonstration projects, we are faced with a situation that is difficult to assume from the family economy of a large proportion of citizens.
The NC responds to this difficult situation that confronts the undoubted need to revitalize obsolete neighbourhoods with their social reality. By understanding the cooperative as a tool for the self-financing of the neighbourhoods by obtaining parallel resources that would reduce the direct contribution of the members of the neighbourhood, it was necessary to analyse the economic viability of the model. In addition, the project shows the synergies that the neighbourhood cooperative model can generate from the initiative of its inhabitants in the construction of a more efficient and sustainable collaborative neighbourhood.

NEIGHBOURHOOD COOPERATIVES

An NC is a collaborative management system based on the participatory relations of citizens to solve the problems of cities. This neighbourhoods' management model is based on a cooperative society that allows favouring the regeneration of residential communities. The NC is established as a source of employment and training, as well as a boost for the economy of the district, to induce job creation within the cooperative, and enhance the business activity of the neighbourhood and local companies.
This model facilitates the development of cooperative mobility services without CO_2 emissions, which would allow the almost total elimination of the private car fleet in the neighbourhoods, or the creation of cohousing communities for older people with almost free care benefits.
The NC implements the concept of 'common-life services' as a regeneration mechanism to foster housing solidarity, economic benefits and savings (both community and personal); it stimulates a better understanding of the needs of community (sharing, communicating, collaborating), establishing mechanisms for optimization and common management of daily expenses of cleaning, transportation or maintenance of buildings and communities, as well as the use and care of public space. In addition, with the renovation and updating of residential buildings and public spaces, this platform promotes the activation of neighbourhoods' life, creating a business and social fabric, as well as collaborative working networks capable to solve the current housing problems.

The neighbourhood cooperative and the cohousing model

There are many international success cases in relationship with the development of the NC, for instance, the *Coin Street Community Builders* (CSCB) or The Eldonians in England. In these cases, community-based housing associations and cooperatives have been an important part of that success. [3]
NC shares cohousing features, especially in terms on equality, democracy and horizontality in the decision-making process. Stewart highlights four of McCamant & Durret's features to define the philosophy of cohousing: participation, interaction, common facilities and spaces, and self-management.[4] Cohousing is a form of home ownership that emphasizes community and shared space.[5] Both of them are private homes around a network of services.[6] Cohousing improves pro-environmental behaviours on driving moderation, energy conservation, household food procurement and recycling and composting.[7] They have a participatory development process, neighbourhood design, resident management, common facilities, non-hierarchical structure and decision-making,[8] but a NC shares economy. There are three important differences:

1. A cohousing community is quite smaller than an NC – around 12-36 dwellings[9] vs. a minimum of 2000 dwellings for NC.
2. A cohousing community is mainly a new-building project; the NC is a process of regeneration of an existing design.
3. An NC is a special form of social enterprises focused to corporate social responsibility.

The aim of an NC is to develop a supportive tool to encourage the creation of collaborative living spaces in neighbourhoods and housing blocks. Mutual support networks and a social fabric are established in order to create more sustainable communities, improving a better use of public-private areas, and sharing accessible houses. According to Sandstedt & Westing, the idea behind the cohousing model is that common work is the basis for personal contacts.[10] Cohousing may have a "solidarity fund" (to which all households contribute and from which anyone may draw in time of accident or emergency),[11] NC must have a "cooperative fund".
The NC is a consumer cooperative constituted to obtain goods and/or services for its partners on advantageous terms as well as the cooperative of associated work (whose purpose is the provision of third-party work and services). There may be several "sub-cooperatives" for different services and sub-cooperatives of associated work if it is intended to offer services out of the community and get incomes for the cooperative fund.

Collaborative social network

According to Cuchí and Sweatman, the neighbourhood's regeneration is not only an architectural and urban operation, but also requires a new business model where new areas of activity can be integrated.[12] The NC establishes an action framework or an ecosystem of relations (Figure 1), where it is necessary to locate all the inside and outside stakeholders (neighbours, administrations, associative and productive fabric of the neighbourhood, socially responsible business network...) that take part in the urban rehabilitation processes. The map of relationships (Table 1) determines the role of each of them.

Table 1. Stakeholders' role of a neighbourhood cooperative

Stakeholder	Role
Public administration	1. Develop municipal strategies that favour the creation of neighbourhood cooperatives to transform the slums and sustainable mobility 2. Collaboration with cooperatives for the transformation of public space, including the assignment of spaces 3. Exemption of fees and tax incentive measures 4. Promotion and dissemination of the model
Corporate social responsibility enterprises	1. Adapting traditional business models to the benefit system related models of neighbourhood cooperative. 2. Commitment to quality employment and corporate social responsibility, as well as with the community and the neighbourhood. 3. Creating stable, sustainable and viable links and relationships with neighbourhood cooperatives. 4. Servicing and supply goods to cooperatives during periods of time guaranteed
Cooperative enterprises	1. Create a relationship of consumption to boost the economy of the neighbourhood and proximity trade. 2. Promote the diversity of services in the neighbourhood.

The analysis of physical and social conditions determined a series of strategic interventions, establishing priorities according to the real needs of its citizens, as well as the legal requirements of its implementation. The implementation was also done according to the relationship between the NC's

incomes and the expenses resulting from improvements in buildings and public spaces, forcing to establish criteria of priorities.

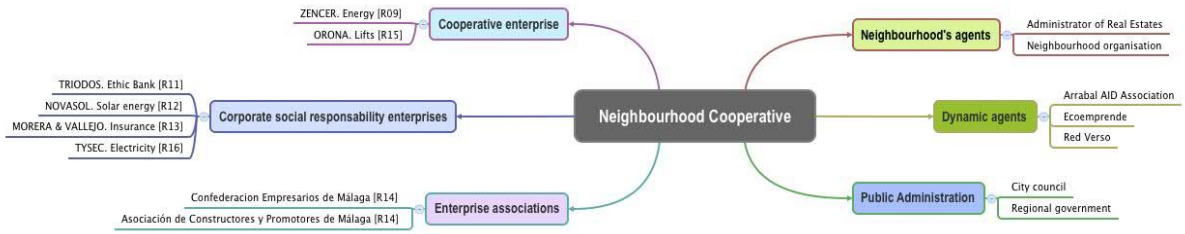

Figure 1. Example of NC's stakeholders network of a case study of 900 dwellings in Málaga (Spain).

NEIGHBOURHOOD COOPERATIVES' BENEFITS

The economic study was carried out on the formulation of a cooperative business model based on the sum of two basic principles:

1. The economy of scale, which allows reducing costs in contracts of large volumes.
2. The provision of habitability services as an alternative to the sale of goods.

The NC analyses the economic viability of savings, obtained by the economy of scale and managed through the model of the consumer cooperative. These savings can become into income for the cooperative fund through several mechanisms. Also other sources of savings related to the consumption of families are included, both in the possible internal commerce of the neighbourhood and in external services. In addition, the NC can implement complementary services for neighbours, such as sustainable mobility, care for the elderly, managing the rent of vacant housing in the neighbourhood, or renting common-places (e.g. building roofs) for solar collectors of electric companies (Figure 2). Moreover, the NC also promotes the use of empty housing, fostering the rent at affordable prices and facilitating access to housing, while generating economic resources to cope with rehabilitation.

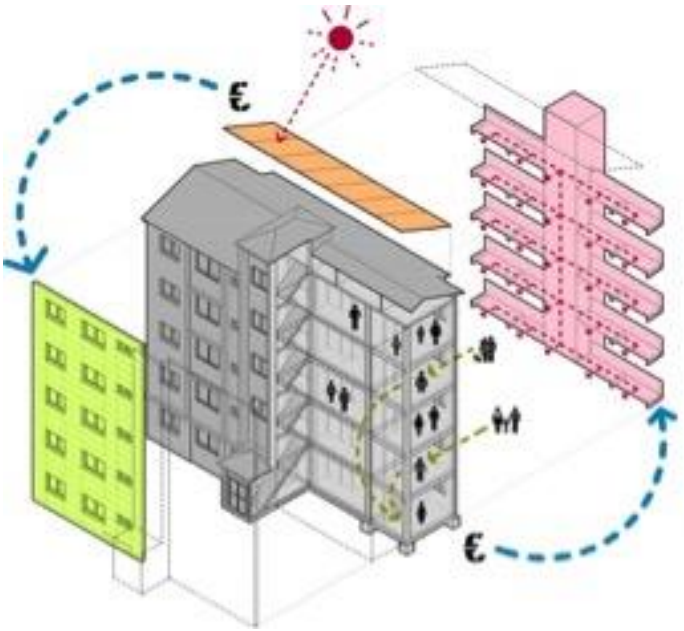

Figure 2. An example of funding scheme of the neighbourhood cooperative: Incomes for solar production are destined to accessibility and the improvement of facades.

The optimization of consumptions by the economy of scale and the improvement/provision of habitability will also have a repercussion in the improvement in the social and environmental aspects. For example, improving water and sanitation networks promotes the reduction of losses in water consumption, or the contracting of energy services for all the members of the cooperative with companies that guarantee their production of 100% renewable energy. It makes the bill cheaper while collaborates in the reduction of gases of greenhouse effect.

Table 2. NC's benefits on a case study of 900 dwellings in Málaga (Spain)

Concept	Without NC	With NC	Savings
Rehabilitation cost	25,054,593.82 €	16,134,117.39 €	8.920.476,43 €
Percentage	100.00 %	64.40 %	35.60 %
Annual loan payment	1,455,423.23 €	939,743.54 €	-
Annual revenues	-	668,291.90 €	-
Difference	1,455,423.23 €	271,451.64 €	-
Annual quota per household (914 dwellings)	1,592.00 € (100%)	296.99 € (18.75%)	1,295.01 € (81.25%)
Monthly charge per household	132.66 €	24.75 €	107.91 €

The greater the resident population integrated in the cooperative is, the more possibilities of financing will count the neighbourhood; thanks to the increase of the returns obtained by the economic efficiency in the consumptions, and to the greater volume of business of the cooperative as service provider (see Table 2). In addition, the NC is a source of employment that will give priority -as far as possible- to hire neighbours, joining it as working partners. The NC responds to a comprehensive project of neighbourhood's regeneration that is built on a collaborative economy to create a more adaptable society, which can deal with the constant changes.

CONCLUSIONS

Starting from the original objective of rehabilitation and regeneration of neighbourhoods, the management platform proposed is not limited in time to the rehabilitation period. The NC is a long-term incentive to improve the economic and social activation of the neighbourhoods. In this way, the project verified the positive effects of the NC in the following points:

1. The integral rehabilitation of neighbourhoods is addressed from a self-financing system, generating benefits derived mainly from the reductions of costs and the capacity of the cooperative to generate income through its own activity. The case study results showed that NC is able to reduce the cost of rehabilitation by 36%, and to generate more than 80% of the annual quota that would have to be faced to finance the whole project.
2. It encourages companies that want to participate in the rehabilitation process to comply with ISO 26000 standards of corporate social responsibility.
3. It is an agent that revitalizes the economy of a neighbourhood and induces the creation of employment on several levels. At a first level, the collaborative work within the own cooperative is developed, besides the creation of jobs associated to the services directly managed by the cooperative. At a second level, the activity of the business fabric, usually constituted by small companies, is strengthens since it foments the consumption of the partners. At a third level, for larger actions, the model prioritizes local companies that are able to adapt their business formulas to the proposed service delivery model and that meet the social responsibility criteria mentioned.

Finally, we can conclude that the implementation involves a wide range of stakeholders, but it is in the complexity of its formulation and its implementation where its greatest advantages reside. Rather than a project, it is a process capable of giving rise to a sustained transformation in time, and at the same time generates resources, activity and social relations, empowering citizens as the main architects of the transformation of the neighbourhoods.

FUNDING SOURCE

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REFLECTING INDIVIDUAL PREFERENCES AND SPATIALITY IN LIVABILITY MEASUREMENTS: A LIVABILITY ASSESSMENT PLATFORM FOR THE CITY OF SALZBURG

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INTRODUCTION

Livable urban environments are a focus of many decision makers, urban planners and, above all, the citizens.[1] For effective livability enhancement, it is crucial to examine the initial condition of livability-related factors, to identify where and how to perform changes. Spatial characteristics, along with the subjectivity of the individual perception and preferences, are significant in this process. At the same time, interpreting and reflecting spatiality and subjectivity are among the most challenging tasks of livability assessment.[2] In this regard, many questions arise, such as: How can we weight the livability factors to determine overall livability? What is the optimal spatial scale to map livability factors? And, most of all, how can we integrate the citizens' perceptions and preferences into the assessment process? To further investigate these questions, we developed an assessment platform where user preferences regarding urban form and urban functions can be mapped, considering other social and non-physical modifying effects such as demographic characteristics and safety. The overall goal of the platform is to capture the important but usually neglected aspects of livability assessment within the city, by integrating individual preferences towards a set of livability factors and their spatial characteristics. The scope of use of our platform ranges from research to planning purposes. It can support public participatory planning, analysis of the completeness of neighborhood functions, or the collection of user responses regarding the interpretation of livability for further analysis.

THE COMPLEXITY OF URBAN ENVIRONMENTS

Cities are the living environment of hundreds of millions of people all over the world. Satisfying the diverse needs of so many people results in a complex system of networks, ranging from transportation to shopping facilities or even public services. To reduce this complexity, urban environments were represented by two main elements in our platform development process: the urban form, and the urban functions. The former involves the physical environment, while the latter describes how this environment is used by the citizens, both in a physical way (e.g., traffic) and for social activities.[3] The aspects of urban form and function can be distinguished, but they depend on each other, which makes their complete separation impossible. For instance, the urban form influences most of the human activities in the urban environment, and, at the same time, changes in urban functions can affect (on a different time scale) planning and other urban form-related aspects.[4] Therefore, as a first step, it is essential to explore the underlying interrelationship between urban form and urban function to understand the livability of our cities.

Urban form and the human scale

Describing and analyzing the physical structure and characteristics of a city has its own discipline called urban morphology.[5] This physical structure, also referred to as urban form, is a fundamental element in urban livability analysis. Although there are well-established methods for describing urban form, in the case of livability the subjective perceptions of the individuals also need to be integrated (*Figure* 1) to define the optimal characteristics of a livable built environment. Therefore, we used the concept of the human scale by Jan Gehl.[6] Most of the statements in the human scale concept rely on biological and evolutionary findings of the human body and mind, such as the perception of distances, speed, directions, and scales to objectively describe good urban environmental quality. This good urban environmental quality is a prerequisite for spending discretional time in public places,[7] which is the result of good urban form (and good urban function). In this case, 'good' refers to a human-scaled environment, which is (amongst other factors) lively, safe, and aesthetic.[8]

Urban function and mobility

Urban functions are essential to fulfill human needs. These functions can be categorized and analyzed according to different principles, but in the case of livability assessment, the accessibility of these functions is the most significant. The way in which people move within the city and access urban functions to fulifll their needs can be shown by their mobility patterns. All of these movements within the city have a specific purpose, either it is something essential (e.g., going to work), or related to the citizens' free time (e.g., visiting a park). However, better functionality by itself cannot compensate for weaknesses in accessibility because those functions also need to be reached somehow. Yet, it does not imply that the closest facility is the most suitable, some people might travel further for a specific function based on their personal values. This illustrates why analyzing mobility and spatiality is connected to urban functions and why it cannot be neglected when assessing livability.

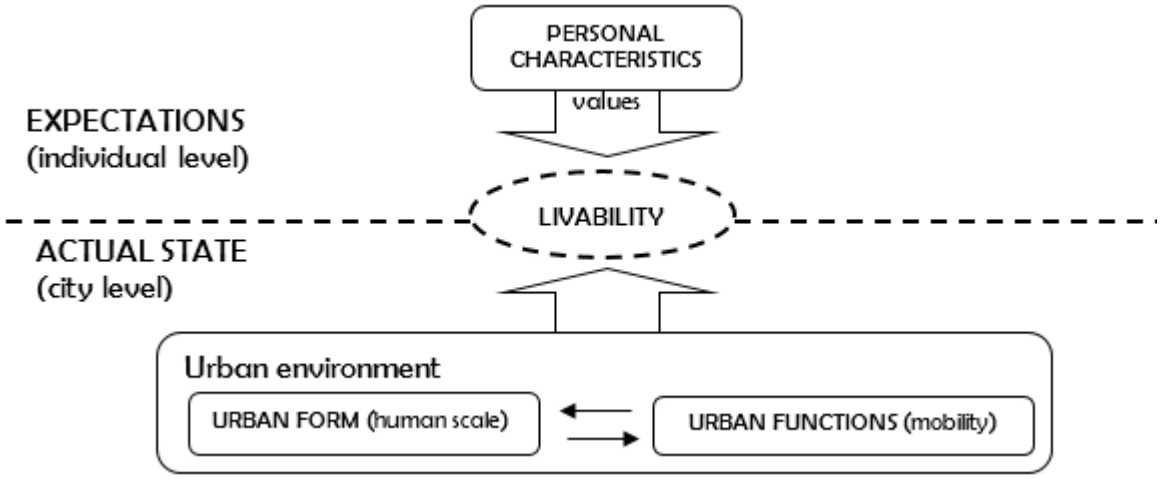

Figure 1. Livability components

The difficulty of livability assessment

Livability can be interpreted as the quality of the person-environment relationship.[9] If the expectations of a citizen, based on their preferences and needs, are fulfilled, higher livability is achieved. However, this also means that even the physical and measurable environment play a different role in every individual's life based on their varying preferences and needs. Therefore, an overall assessment by applying general weights to each livability factor is almost impossible.

Figure 1. shows the graphical interpretation of livability, as it illustrates how the elements of the urban environment are related to the expectations of a person. In order to apply this scheme for livability

assessment in practice, we should provide information on the urban form, urban functions, and the preferences and expectations of a person. In the case of the first two, the integration in the assessment platform can be achieved by appropriate datasets; but for the preferences and expectations, we need to involve citizens directly, to collect their preferences and perception of the urban environment.

The role of Geographic Information Systems (GIS)

GIS was used for the integration of spatial aspects in our platform. A GIS is a computer-based system where geo-referenced, spatial data can be collected, stored and processed to extract information, which can then be analyzed spatially to extract knowledge. Results can be visualized on maps to provide information (e.g., for decision making). Using GIS is especially advisable in a geographic context to investigate complex spatial problems.

THE DESIGN OF THE PLATFORM

Factors and scales

As a first step, we defined a set of livability factors to assess (*Table* 1-3). We used the above-described categorization for urban form and urban functions to specify these factors, and we added a third category to represent aspects that are not inherently part of urban form and function, but have some modifying effects on them, such as safety or demography.

Table 1. Urban form factors[10]

FACTOR	DEFINITION	FACTOR	DEFINITION
Urban fabric continuity	General measurement of urban form, continuity means that the area is homogeneous in terms of building structure, density, style and maybe even in age and functionality. Due to this variety of different factors measuring urban fabric continuity is also complex.	**Block sizes**	Shorter block sizes enhance pedestrian permeability which means that it makes getting from A to B easier, without unnecessary bypasses. Block is the area defined by intersecting roads, the smallest areal unit within a city, surrounded by roads. In European cities blocks are less regular, compared to the American rectangle shapes. Therefore, this factor was rather interpreted as walkability, namely how big is the area covered by a 5-min walk from each building
Mixed land use	Enhances urban vitality by activating different parts of the area at different times due to the different functionality. In contrast with the first factor, here heterogeneity is better because it reduces the average distances of each function it terms of accessibility.	**Storefront**	'Soft'-edges (where indoors meet outdoors) are important along the streets while walking, such as shop windows.
Building height category	The height of a building floor is relevant in terms of connection to the street surface. After the fifth floor there is no more connection between the ground and the building. In a human scale environment buildings below five floors are preferable.	**Building density**	Buildings per km^2
		Streetscape*	How does the street look like? Are there trees, shop windows? Aesthetic values in general

Table 2. Urban function factors

FACTOR	DEFINITION
Street network connectivity	It eases mobility regardless of transportation mode. With a well-connected network, the distances are shorter from A to B.
Traffic-calmed areas	Although, connectivity is important for faster and shorter trips, traffic-calmed areas can increase traffic safety and reduce noise and air pollution on a finer scale e.g. in a residential area, right in front of the houses.
Bikeability	A pre-calculated index based on traffic safety for cyclists and available bicycle infrastructure (bicycle path/way) etc.
Accessibility to parks / green urban areas	Average walking time in minutes to the closest park/green urban area within each MPU (from each residential building)
Accessibility to waterfronts	Average walking time in minutes to the closest waterbody within each MPU (from each residential building)
Accessibility to leisure facilities	Average walking time in minutes to the closest leisure facility within each MPU (from each residential building)
Accessibility to public transport	Average walking time in minutes to the closest bus stop and the average frequency of the bus in that station within each MPU (from each residential building)
Shopping facilities	Average walking time in minutes to the closest shop (basic and special shopping facilities are distinguished)
Meeting facilities	Average walking time in minutes to the closest meeting facility (e.g. bakery, bar, restaurant etc.)
Recreation facilities	Average walking time in minutes to the closest meeting facility (e.g. bakery, bar, restaurant etc.)
Accessibility to squares, plazas*	These public places has a prominent role in public life. How the people can access them and how they use (functionality) are worth further investigation
Benches in public spaces*	Streetfurniture has also an interesting role in how the people use public places
Healthcare*	might be pre-defined zones for each institute – accessibility is not the criterion for choosing one
Education*	
Housing*	real estate prices, empty buildings quality etc.

*not included in the platform at this stage

Table 3. Modifying factors

FACTOR	DEFINITION
Population density	Number of people per km^2
Population age	How homogenous is the population in terms of age groups?
Population nationality	How homogenous is the population in terms of nationality?
Safety risk	Existing risk model for assault, robbery, and burglary

Transferability was an essential principle in the selection of the factors, meaning that the same factors can be used for any other city regardless of size. However, cultural and climatic characteristics might influence the optimal values from place to place.

Regarding urban form, the aim was to reflect each dimension of the physical urban environment. *Urban fabric continuity* is a complex and very general factor which tries to grasp the urban form according to the human perception.[11] This value represents homogeneity in terms of many different aspects ranging from functionality to the building structure. However, heterogeneity also has an important role in urban vitality so we added *mixed land use* as a factor.[12] Even if land use refers to urban functionality as well, our purpose with this factor was to represent heterogeneity; therefore, the accessibility of these different land use categories and their role in fulfilling human needs is less significant. Two and three dimensional

aspects are included using *block size*, *building height* and *building density* as factors,[13] while the factors *storefront* and *streetscape* are responsible for the evaluation of the quality of the environment.
In the case of urban functions, accessibility was the key characteristic we intended to describe in as much detail as possible. The first three factors, *street network connectivity*, *traffic-calmed area*, and *bikeability* reflect general accessibility characteristics. Connectivity is important for easy mobility, but in a residential area the goal is to restrict transit traffic so we measure traffic-calmed areas as well.[14] Each of the remaining factors is responsible for the measurement of the accessibility of one specific function such as *public transport*, *free time activities*, nature (green areas, water fronts), or *shopping facilities*.
The third category highlights modifying factors in terms of the characteristics of the population and safety.[15] In the updated version of the tool, noise and air pollution will also be integrated. All of these aspects can modify or even override the perception of characteristics about urban form and urban functions, so their integration is essential for a successful assessment platform.
Regarding scales, we were able to distinguish three different spatial scales after collecting all the relevant factors for assessing livability. The finest spatial scale includes all factors that have an effect on people's perception within the sight distance. Most of the urban form factors and all the accessibility-related factors where the calculation is point-based are interpreted on this scale. The next, coarser spatial scale is the neighborhood level, where most of the functionalities fit because a good neighborhood should provide all the necessary functions in a relatively short distance. Finally, there are factors that can be analyzed on the city level. For example, hospitals and most of the cultural facilities (theaters, museums) are relevant on this scale because their importance regarding livability is higher when we compare different cities and not areas within the city. In both cases, the functionality is primary, and the accessibility is secondary – either because of the frequency or the purpose of the visit.

Datasets

In the next step, we found appropriate datasets for the previously designed factors. During the development of the platform, one of the main guiding principles was transferability, for selecting both the factors and the datasets. Currently, our platform is designed for Salzburg, but depending on the available datasets it can be re-designed to any other city by changing the two input datasets (spatial units and calculated factors). Our general goal was to use datasets that are open and available for other bigger cities, at least within Europe. The two main resources are Urban Atlas[16] for land use information (*Table* 4) and Open Street Map[17] for extracting urban functions. Using these resources, even some of the more complex factors such as the route network with attributes or land use can be derived, if necessary.

Table 4. Urban Atlas categories according to main land use categories

LAND USE	URBAN ATLAS CATEGORIES				
Residential	Continuous Urban Fabric (S.L. > 80%)	Discontinuous Dense Urban Fabric (S.L. 50% - 80%)	Discontinuous Medium Density Urban Fabric (S.L. 30% - 50%)	Discontinuous Low Density Urban Fabric (S.L. 10% - 30%)	Discontinuous Very Low Density Urban Fabric (S.L. < 10%)
Transportation	Fast transit roads and associated land	Other roads and associated land	Railways and associated land	Port areas	Airports
Institutional and public buildings, industrial, commercial	Industrial, commercial, public, military and private units	Mineral extraction and dump sites			
Open space and recreational land	Green urban areas	Sports and leisure facilities	Agricultural areas, semi-natural areas and wetlands	Forests	Water bodies
Other (not included in the analysis)	Construction sites	Land without current use	Isolated structures		

However, to show the real potential of the livability assessment platform, some factors require a more detailed or reliable dataset such as the street network, the building cadaster provided by the municipality, or the calculated 'bikeability' values, from the GI Mobility Lab at the University of Salzburg's Department of Geoinformatics – Z_GIS.

Meaningful Place Units (MPU)

The third step was to define spatial analysis units (Meaningful Place Units - MPU) within the city based on physical and psychological barriers according to the human perception.[18] Usually, traditional administrative units do not fit the perception of the people regarding physical and psychological barriers. Therefore, we delineated these units using primary and secondary roads, railways, rivers and other water bodies, building density, etc. The first part of the delineation was automatically performed, but according to the particular characteristics of Salzburg, we manually modified some borders. The reason for this was that outside the city core the urban structure is highly heterogeneous and there are huge areas without any buildings. The subdivision of these areas had to be done manually. As a result, the city was divided into 117 distinct spatial units. The final values of the factors were aggregated within these units to generalize the results.

Calculating factor values

The last preprocessing step for the platform was to calculate and normalize the factor values for each spatial unit on a scale from one to ten, where ten refers to the most desirable and one to the least desirable values, from a human scaled environment perspective (*Table* 1-3 and *Appendix*).

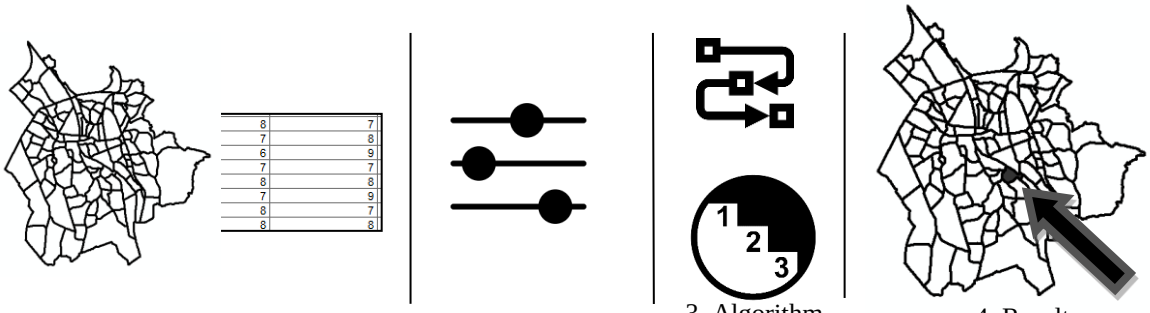

Figure 2. Outline of the platform

User input

The data inputs for the online platform are the MPUs in spatial file format (shapefile) and a normalized value of every defined livability factor attached to each of these spatial units, as a result of the above-mentioned data pre-processing (*Figure* 2). At the same time, the input from the users of the platform reflects the importance of each livability factor according to the user's preferences, on a scale from one to ten, where ten represents the most important factor. This contrast is worth highlighting: While the livability factors are calculated referring to the optimal state within a human scaled environment (according to the literature), the user should define only the importance of the factor and not the desired condition. For example, in the case of the building height, the livability factor is calculated based on the number of floors, and the lower the building, the higher the factor's value, which means it is more desirable. However, when the users set the value for the building height factor they refer to their individual preference about the importance of living in an environment where the majority of the buildings are lower than five floors and not the actual building height.

Ranking

After the user sets the weights according to the importance of each factor, the algorithm (*Figure* 3) compares the given weights with the pre-calculated values of the MPUs and selects the area which is the most similar to the user input. The value of a whole spatial analysis unit (MPU) is calculated using the pre-defined optimal value and the weight based on the importance value set by the user.

$$Score_{MPU} = \sum_{factor=1}^{20} Score_{factor} \quad (1)$$

$$Score_{Factor} = Min\left(\left(\frac{value_{factor}}{weight_{factor}}\right) * 100,\ 100\right) \quad (2)$$

Figure 3. Ranking method for factors based on the weight set by the user

As a result, the MPU with the highest score is highlighted on the map, and the performance of the matching is also calculated, which shows the grade of similarity between the expected and the actual state.

The other use case might be that the user simply selects one of the units on the map after setting the importance values for each factor. In this case, the similarity between the user's input and the actual conditions for the selected MPU will be determined and communicated. This scenario can be used when someone is interested in the livability of a specific area, for instance where they live or which they visit frequently.

DISCUSSION AND CONCLUDING REMARKS

With the development of our livability assessment platform, we intended to provide a system that integrates spatial and individual aspects into livability analysis. We pointed out that these aspects are important, but usually underrepresented in research and practice. Therefore, we identified a set of possible livability factors, their calculation, and source of data, to design an online platform where citizens can directly share their preferences towards a livable environment with the planners or researchers.

The current version of the assessment platform is the result of a pilot study for the city of Salzburg and is still in a developmental phase. At the moment we are designing tests to analyze the usability and utility of the platform by collecting feedback from the users. Another step to improve the platform is to elaborate the details of the factors that were not included in the current version of the platform such as streetscape or housing-related information.

In this paper, we emphasized that our intention was to allow the application of the platform for other cities or even a specific (planning) purpose where there is a need for collecting individual responses on the person-environment relationship. This depends mainly on the data available, but, in a later stage, we also aim to publish the calculation methods and the technical background as an open access tool to offer a flexible possibility for planners, decision makers and researchers.

Acknowledgment:

We thank our colleague, Dr. Martin Loidl from GI Mobility Lab for providing data and professional advice for this paper. We also thank for Milena Kocher, Dr. Michael Leitner, and the Municipality of Salzburg for providing valuable data for our research. We would like to show our gratitude to Shi Gege and Meihui Wang, students of the Applied Geoinformatics master program, who helped in the data pre-processing stage.

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APPENDIX

I. Calculation of the urban form factors

FACTOR	CALCULATION	ORIGINAL VALUES	NORMALIZED VALUES	SCALE	DATASET
Urban fabric continuity	The values for the factor are calculated based on the area of the three biggest Urban Atlas land use categories (*Table 4*) in percentage - compared to the size of the spatial units (MPU).	>90% 80-89% 70-79% 60-69% 50-59% 40-49% 30-39% 20-29% <20%	10 9 8 7 6 5 4 3 2	fine scale	Urban Atlas
Mixed land use	There are six land use categories distinguished (*Table 4*) where all the six are present gets ten points.	6 5 4 3 2 1	10 9 7 5 3 1	neighborhood (fine scale depending the purpose)	Urban Atlas + building data
Building height category	No need for calculation, simply the original floor values are classified.	2 or below 3-5 above 5	8 5 2	neighborhood (fine scale depending the purpose)	Building data
Block sizes	The size of the polygons on average within an MPU - which represents the area covered by a 5-min walk from each residential building (the bigger the better).	Area in m^2 categorized by 'natural breaks' into ten categories	1-10	neighborhood	Street network + buildings
Storefront	Those areas are measured where there are less than 100 m between two shop windows. (number of shop windows within a continuous polygon - the bigger, the better)	into 5 categories by 'natural breaks'	10 8 6 4 2	fine scale	Building data
Building density	Number of buildings per km^2 within an MPU. Where this value is lower than the city average gets a higher point and where it is higher gets a lower. The average in Salzburg: 222 buildings/ km^2	5 categories (3 below average, 2 higher)	6 8 10 (average) 4 2	neighborhood	Building data
Streetscape*	*not included in the platform at this stage	-	-	neighborhood	*Google Street View, tree cadaster*

II. Calculation of the urban function factors

FACTOR	CALCULATION	ORIGINAL VALUES	NORMALIZED VALUES	SCALE	DATASET
Street network connectivity	Number of junctions for each km^2 was calculated as a normalized value.	10 categories based on 'natural breaks'	1-10	neighborhood	road network
Traffic-calmed areas	The area of roads with a speed limit of 30 km/h were summarized together with pedestrian areas			fine scale	road network (speed limit, pedestrian area)
Bikeability	A pre-calculated index based on traffic safety for cyclists and available bicycle infrastructure (bicycle path/way) etc.	Between 0 and 1			road network + safety and road category
Accessibility to parks / green urban areas	Average walking time in minutes to the closest park/green urban area within each MPU (from each residential building)				Urban Atlas + building data + road network
Accessibility to waterfronts	Average walking time in minutes to the closest waterbody within each MPU (from each residential building)				
Accessibility to leisure facilities	Average walking time in minutes to the closest leisure facility within each MPU (from each residential building)	10 categories based on 'natural breaks'	1-10	fine scale (A to B specific route)	
Accessibility to public transport	Average walking time in minutes to the closest bus stop and the average frequency of the bus in that station within each MPU (from each residential building)				bus stops and schedules + building data + road network
Shopping facilities	Average walking time in minutes to the closest shop (basic and special shopping facilities are distinguished)				Open Street Map
Meeting facilities	Average walking time in minutes to the closest meeting facility (e.g. bakery, bar, restaurant etc.)				
Recreation facilities	Average walking time in minutes to the closest meeting facility (e.g. bakery, bar, restaurant etc.)				
Accessibility to squares, plazas*	These public places has a prominent role in public life. How the people can access them and how they use (functionality) are worth further investigation	-		depending on the purpose of the analysis	Open Street Map + road network + residential buildings
Benches in public spaces*	Streetfurniture has also an interesting role in how the people use public places	-	-	fine scale	-
Healthcare*	might be pre-defined zones for each institute – accessibility is not the criterion for choosing one	-	-	neighborhood or city	-
Education*		-	-	neighborhood or city	-
Housing*	real estate prices, empty buildings quality etc.	-	-	depending on the purpose of the analysis	-

*not included in the platform at this stage

III. Calculation of the modifying factors

FACTOR	CALCULATION	ORIGINAL VALUES	NORMALIZED VALUES	SCALE	DATASET
Population density	Number of people per km² compared to the average of the city (2436 person/km²)	13,548033 - 840,350883 840,350884 - 1869,237169 1869,237170 - 2436,000000 2436,000001 - 6009,589861 6009,589862 - 10477,615759	6 8 10 4 2	neighborhood	Population statistics
Population age	The sum of the two biggest age groups in percentage (4 categories: children 0-19, young adults 20-34, adults 35-59, elderly 60+ years)	66,904363 - 70,491803% 64,456004 - 66,904362% 62,187501 - 64,456003% 59,709866 - 62,187500% 56,766917 - 59,709865%	10 8 6 4 2	neighborhood	Population statistics
Population nationality	The sum of the two biggest citizenship groups in percentage (according to the statistical categories: Austrian, EU, etc.)	92,800001 - 97,545220% 89,347080 - 92,800000% 86,037146 - 89,347079% 81,771866 - 86,037145% 73,516320 - 81,771865%	10 8 6 4 2	neighborhood	Population statistics
Safety risk	Existing risk model for assault, robbery, and burglary (Kocher and Leitner, 2015)	1 (low risk) 2 3 4 5 (high risk)	2 (highest risk) 4 6 8 10 (lowest risk)	fine scale	Crime data

LESSONS FOR URBAN DESIGNERS: ENHANCING A CITY'S LIVABILITY, SUSTAINABILITY, AND SENSE OF COMMUNITY FROM THE BOTTOM-UP. CASE STUDIES FROM HAVANA, CUBA.

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INTRODUCTION: CITES AS PART OF THE SOLUTION TO ECOLOGICAL PROBLEMS

It is well known that cities cause large impacts on ecosystems and the global climate. For example, estimates of how high the contribution from cities is to global GHG emissions vary from 30% to as high as 80% (Spiegelhalter and Arch, 2010). The built environment uses approximately a third of all materials on the planet and is responsible for a third of the world's waste (Spiegelhalter and Arch, 2010). Huge amounts of energy and water are used to support cities, and hinterlands are drawn upon to provide food and other vital ecosystem services to keep cities functioning (Rees, 1999).

These impacts are compounded by the rapid urbanisation of populations along with population increase (Moran et al., 2008, Rands et al., 2010). More than half of all humans live in urban environments, a figure predicted to rise to 60% by 2030 (Eigenbrod et al., 2011). Although the urban built environment occupies only approximately 3% of global land area (Ruth and Coelho, 2007), it is the main site of human economic, social and cultural life in terms of both magnitude and significance. The city therefore must be a vehicle for rapid positive change as society collectively grapples with changes in climate, declines in ecosystem service provision, and changes in human wellbeing indicators worldwide (Pedersen Zari, 2012). Although the built environment cannot alone be tasked with solving all ecological issues, the way people inhabit the built environment does make a large contribution to these issues. It could also therefore be a medium where these problems are potentially addressed (IPCC, 2007).

BEHAVIOUR CHANGE AND ACTIVE CITIZENSHIP

Cities are major sources of ecological and climate degradation because of the behaviours of the people that reside within them as they work to obtain the food, water, energy and shelter needed for quality of life (Bloom et al., 2008). Although 33% of urban residents live in slums worldwide (14% of the total human population), urban populations tend to be more wealthy and consume more (Bloom et al., 2008, UNEP, 2011). Per capita carbon emissions are typically lower for people living within cities than their rural counterparts within the same country however (Dodman, 2009). This means that blaming cities themselves for climate change and other ecological issues diverts attention from the main drivers of these negative changes; namely unsustainable consumption behaviours, especially in the world's more affluent countries. Part of engaging cities as solutions to ecological and climate degradation has to focus on human behaviour therefore. How then can the behaviour of people in cities be challenged or changed? Top down initiatives (meaning directed by local or national government laws, policies, incentives and penalties) are in many cases effective means to alter or direct behaviour and to determine collective social norms. These kind of top down approaches may reduce peoples' sense of individual responsibility

however. A bottom-up approach, where individuals in a community work alone or together to affect changes may be a more effective way to incite lasting behaviour change that cannot be mandated by law (Patrick et al., 2016). Behaviours such as urban food growing, protection of urban trees, reduced use of private vehicles, and harvesting of rain water are examples. This ties in with notions of voluntary behaviour change (Brög et al., 2009). Finding ways to enable people to make changes to their behaviours, and therefore their cities, and in turn to reduce or remediate impacts to climate and ecosystems is a fundamental part of sustainable development.

Active citizenship means people becoming involved in their local communities without direction from governmental bodies. Active citizenship is a combination of knowledge, attitude, skills and actions that aim to contribute to building and maintaining a healthy and just society (Tandon, 2002). Civic ecology is a related idea referring to self-organised, bottom-up local environmental stewardship actions people take to enhance ecological and human wellbeing in urban settings (Krasny and Tidball, 2012). By looking at examples of active citizenship or civic ecology in cities that have led to pro-environmental behaviour change, professionals of the built environment may be able to gain insight into how to design and manage cities to encourage and support such initiatives.

URBAN FORESTS AND ACTIVE CITIZENSHIP

There is a clear link between urban tree planting and active citizenship (Buijs et al., 2016, Krasny and Tidball, 2012). This research focused on this area to look for lessons that can be applied to other situations where change is needed in cities so that they can become more sustainable and livable, and where bottom-up activities are appropriate to initiate behaviour change.

Briefly, urban trees make cities more livable. This is why this research focused on looking for case studies that exemplify this kind of tangible community led urban adaptation action. Figure 1 illustrates some of the multitude of benefits of urban trees (for reference see: (Samson et al., 2017, Donovan, 2017, Livesley et al., 2016, McDonald et al., 2016, Dwyer et al., 1991).

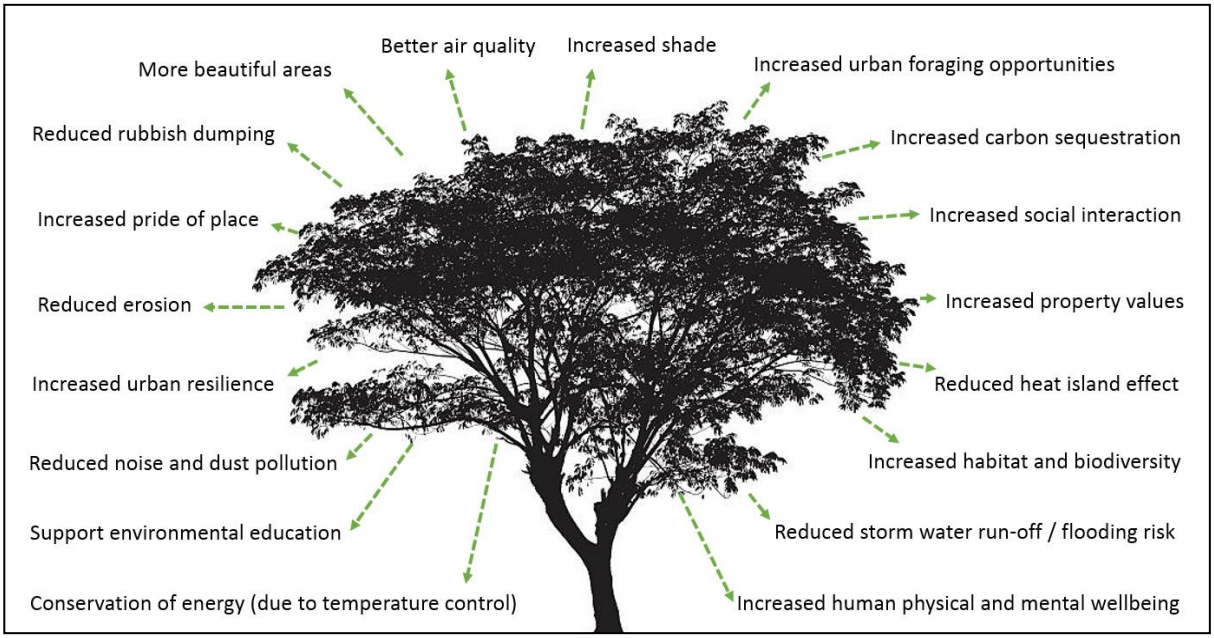

Figure 1: Benefits of urban trees

CASE STUDIES: HAVANA, CUBA

This research examines two examples of effective citizen initiated change in Havana, Cuba, that over medium terms, have led to demonstrable ecological and social benefits. One details an effort to galvanise citizen led protection of urban trees, while the other relates to the greening of a suburb to enhance community engagement in urban tree planting and to reduce rubbish dumping. The case studies demonstrate that the influence of one individual can be significant in creating change in broader communities and that the power of individual citizen-led change should not be overlooked as a suitable way to affect quantifiable positive change in cities.

Havana was chosen as the site of the research because there are in general few examples of citizen led initiatives for environmental action and behaviour change there. This is due to the political climate of the country and to a certain extent to the economic conditions most people live in (Kellogg, 2016, Hill and Tanaka, 2016, Hernández and Herrera, 2017). This makes the following case studies quite remarkable and demonstrates the tenacity and bravery of the people involved to affect meaningful change.

CASE STUDY 1: THE FOREST GUARDIANS *EL GUARDABOSQUES*

In late 2006, frustrations of local citizens of Havana, who had become increasingly unhappy about indiscriminate logging both within and nearby the city, came to a head when a hundred year old Ceiba tree was cut down in San Agustín. The Ceiba is a 'solemn traditional' symbol of Havana and is a sacred tree that is important in terms of cultural heritage to many Cubans, particularly the indigenous Taíno people, Afro-Cubans, and *Guajiro (white rural Cubans)*. The tree means different things to different groups but essentially it functions as a symbol of the diverse Cuban Nation and is rooted in national Cuban identity. For some Cubans, the sacredness of the Ceiba tree is related to veneration of ancestors and belief in the poser of nature. For others the leaves, soil or bark are used in various ceremonies and rituals or as medicine. Still others believe it is *árbol santísmo* - the holiest tree. Related to the Virgin Mary and indestructible. To cut the Ceiba is often seen as a grave offense (Hartman, 2011).

In reaction to the cutting down of the sacred tree, a group of people came together to work towards better management of green spaces and preservation of urban trees. The project, which has been in operation since January 2007, is called El Guardabosques. It has evolved to focus on environmental monitoring of other deforestation in the capital, and over time extended its concerns to other problems affecting Cuban ecosystems. Some of the stated aims of the group include:

- Supporting the formation of identity values that contribute to a community sense of responsibility and belonging to their environment.
- Support of autonomous actions of people or groups related to environmentalism.
- Contribution to the empowerment of citizens by encouraging self-management as the main mechanism to address the challenges of environmental protection.

Since its inception, the group has generated a free digital bulletin monitoring ecological issues in the city and in wider Cuba. Issues discussed include the introduction of transgenic crops in Cuban agriculture, and urban pollution associated with the mismanagement of solid waste. The Digital Newsletter is received by more than 3000 email recipients, despite difficult and sporadic access to the internet for most Cubans (Dye et al. 2016). Most are located in universities, research institutes, or cultural or artistic institutions within Cuba. El Guardabosques also organises public lectures when environmental scholars or activists visit Havana and promote *environmental thinking*, as well as designing and participating in reforestation and environmental education actions.

Urban tree planting is often a focus for the group, were small groups of people come together to plant trees on vacant areas. Permission is not sought, trees are simply planted. Planting days often relate to the birthdays of the people in the group to make the activities related to the personal experiences of the people involved, and to therefore increase the value of the activities and perhaps the long term care of the trees in question. Isbel Díaz Torres, one of El Guardabosques' key people explained that by using birthdays, the emphasis is put onto everyday experiences of the people involved rather than international dates and programs outside of people's own lives.

Havana's ocean drive sea wall is a site for gathering of many Cubans and foreigners alike. Unfortunately the water tends to be littered with rubbish thrown into the water. In response to this, the members of the El Guardabosques network have carried out clean-up campaigns in the area since 2010 (Martinez, 2014). Sacks of rubbish, bottles, paper, plastic bags, cans, broken glass, and other waste has been removed from the water. The group point out that: *'people always give us a strange look – we look "suspicious" to them – but, when they approach us and we have a chance to talk, after we explain to them why we do what we do, some help us, others praise and congratulate us and others tell us we're crazy and that what we do is pointless'* (Martinez, 2014).

While the tangible result of such actions is removal of rubbish, the wider reason for this visible action is to try to influence people's behaviour regarding rubbish dumping in the ocean, but also to encourage the *'leading of more independent lives'* and to positively *'impact people's mentalities'*.

Such actions may seem small, particularly in countries where similar voluntary work is common, but in Cuba this is quite extraordinary. El Guardabosques has no state subsidy for its work or legal status. Torres states:

'The results are more to do with the galvanising people and providing a self-supporting network of like-minded people and a way to disseminate information. What started from one tree and four people, is now a network of active people working on a variety of environmental issues'.

Since 2009 El Guardabosques has been an important part of Observatorio Crítico (OC) (Critical Observatory Network) which is a social network based in Cuba that brings together groups and individuals with diverse cultural, spiritual, and intellectual interests, that work on social change projects (Hernández and Herrera, 2017). Recently, the group also joined the Regional Public Mechanism to promote Principle 10 of the Rio Declaration on Environment and Development, which addresses the right to access to information, participation and justice in environmental matters. This initiative involves the most countries in Latin America and the Caribbean, but not Cuban state institutions.

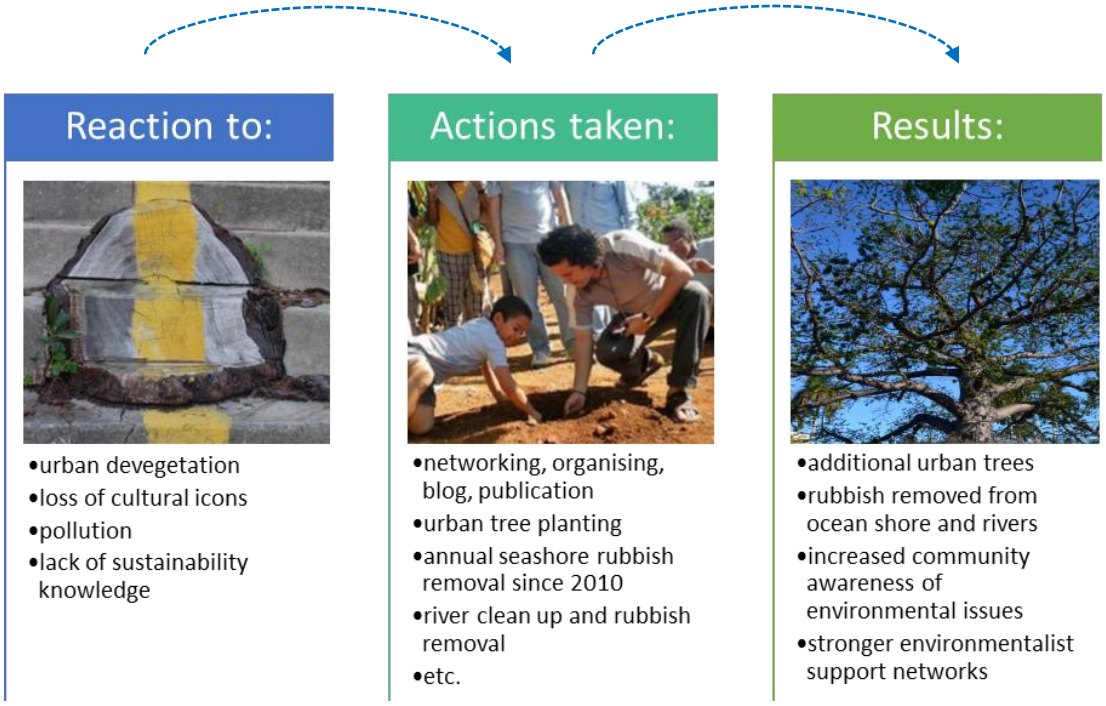

Figure 2 reactions, actions and results: El Guardabosques

CASE STUDY 2: GREENING OF A SUBURB *LA ECOLOGIZACIÓN DE UN SUBURBIO*

In 2017, the research team conducted interviews with people involved with this project. They asked to remain anonymous. In 2000, one woman began a project to green a neighbourhood near Fuente Luminosa in Havana, one street at a time. Figure 3 is a view of where the project is located across approximately 9 city blocks. The idea to plant the wide street verges with vegetation was in reaction to rubbish dumping in the neighbourhood. Havana often has difficulties with municipal rubbish collection and it is common to see piles of rubbish in the street. Concern about decreased food security and lack of sustainability knowledge were also catalysts for the project as was frustration that environmental education initiatives for local children had ended or were seen to be ineffective.

People began by digging up the wide street verges and planting a variety of native and edible plants. School children and other volunteers did the work initially and there was a gradual joining in by the wider community as people saw the benefits of the street planting. These benefits included less rubbish dumping in the community, less dust and noise, greater storm water control, increased access to fruit, greater use by children and the community of the streets and reported stronger personal relationships formed between neighbours.

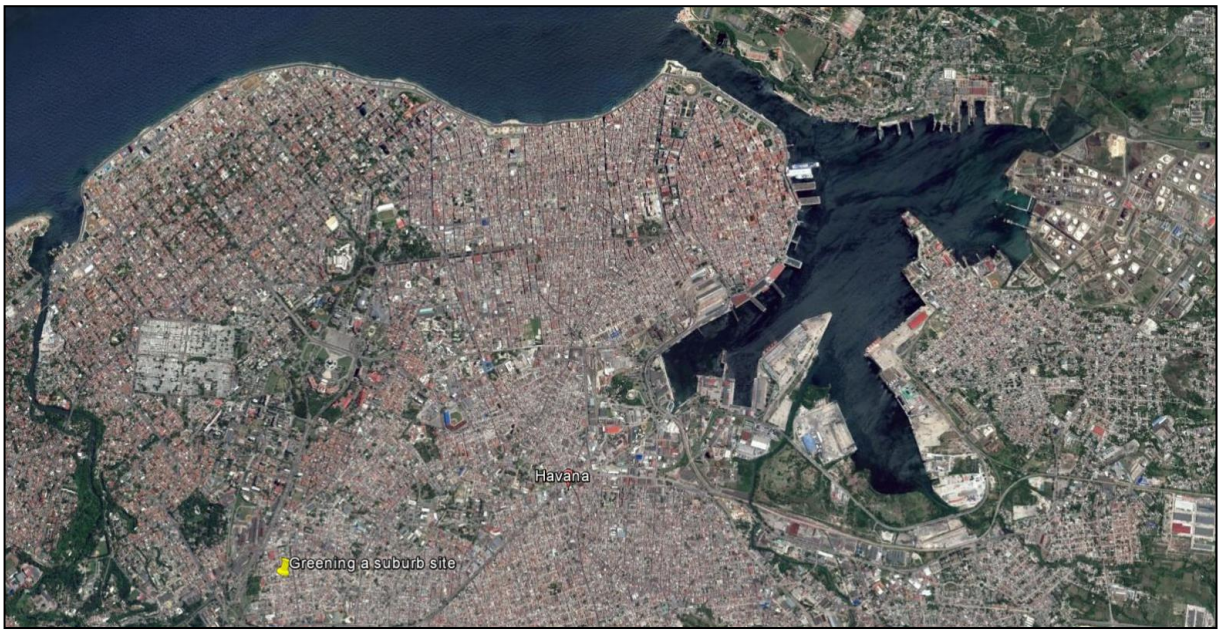

Figure 3 location of the greening the suburbs project

Activities extended to experimenting with roof top gardens (many roof tops are flat in Havana) and green walls. As local people began to know more about this woman's work they started to let her and the core people involved in the group in to the back yards too to improve the food growing activities in back yards. Connections were made and strengthened with a nearby privately owned piece of land that functions now as a community garden. Children and local residents now make use of this more and it acts as a neighbourhood orchard and medicine growing place. An emphasis was placed on working with the young in the neighbourhood to build up community skills and interest.

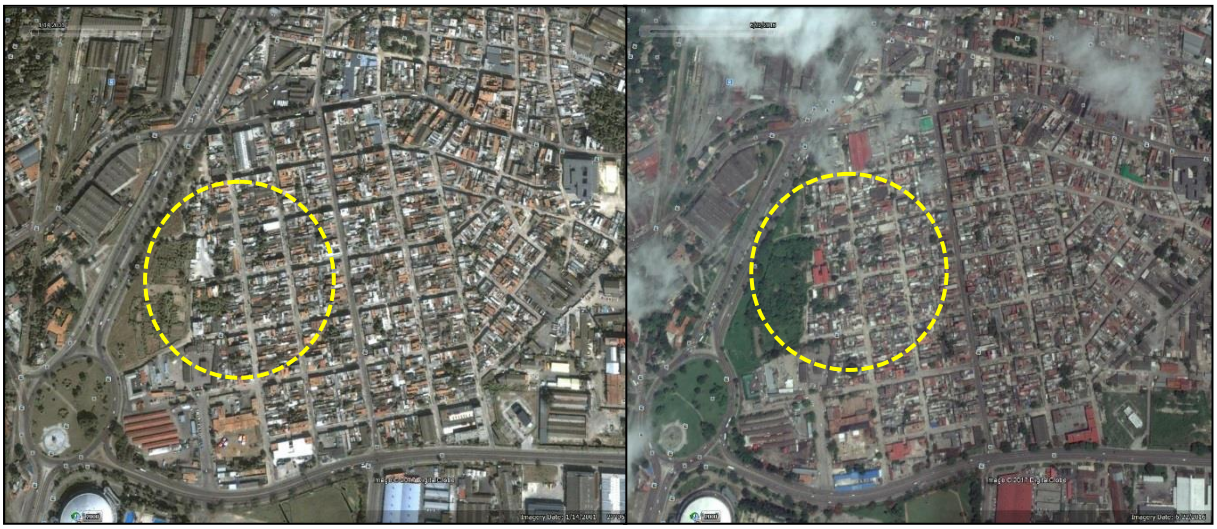

Figure 4 Left: Site in 2001. Right: site in 2016 with evidence of increased planting

Figure 5 Close-up views. Left: Site in 2001. Right: site in 2015 with evidence of increased planting

Figure 6 reactions, actions and results: greening of a suburb

The project has resulted in cleaner streets (less rubbish dumping), and the street plantings have also acted as a catalyst for people to start to grow more in their private back yards or roof top spaces as knowledge, tools, seedlings etc. are shared and revegetation becomes a local social norm. While difficult to quantify the impact on the community in terms of pride and cohesion has been positive. The streets are more beautiful and pleasant, less dusty, and are sociable. People involved also pointed out that the streets felt safer, people were using outdoor areas more, people knew each other more, and that there was an increased level of ecological literacy in the neighbourhood. The project is essentially the work of one woman (with the help of others) over ten years to green her local neighbourhood. She started

with her own street verge and then simply continued. No permission was sought, no funding has been received, and very little external recognition for the transformation of the neighbourhood acknowledged. Again this may seem like a small initiative, but within the context of Havana this is very unusual.

FINDINGS AND OBSERVATIONS

What these case studies demonstrate is that even when barriers exist to practicing active citizenship or civic ecology, certain people will endure and work towards change. These people and actions then become catalysts for wider community behaviour change and education. If active citizenship is to be encouraged to affect behaviour change in cities there are several things that professionals of the built environment can do or provide to encourage such activity and to not stifle these 'bottom-up' initiatives. This involves spatial design considerations and also policy initiatives. A brief summary is provided here:

Working towards urban active citizenship: lessons for urban design / architecture professionals

1. Consider how to work alongside communities to empower people. Design 'with' not design 'for'.
2. Create regular and frequent feedback mechanisms between citizens and urban planners / designers
3. Encourage urban spaces to evolve over time. Enable people to change / adapt their surroundings
4. Allow time and free space for citizens to express and organise ideas for change
5. Link ideas for change and project benefits to local and personal everyday experiences
6. Support and provide funding without strings to citizen led initiatives to improve the city
7. Empower and encourage citizens to affect their own changes from 'the bottom up'
8. Empower youth and women
9. Celebrate and document successes

CONCLUSION

Individual citizens, with some diligence and vision, can and do make substantial quantitative and qualitative positive differences to urbanscapes with or without 'permission'. These case studies from Havana have been used to illustrate the point, but there are numerous other examples of this in other cities. Perhaps if urban designers and planners and architectural professionals can begin to consciously encourage and support such projects and people, city wide changes will occur more rapidly. In order to make cities more livable, and more sustainable people, and their behaviours, need to be part of the change equation. When people are included, city design and management must allow for greater citizen-led change to occur alongside top down methods. To conclude, El Guardabosques point out: *'We show people one needn't sit around and wait for "tasks" to be handed down from above, that one can work independently and do what one considers to be necessary and just. We must acquire the habit of making our own decisions'* (Martinez, 2014). In a similar way professionals involved in planning, designing and making cities can enable, resource, and contribute to such citizen-led initiatives.

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MICROAREE PROGRAMME: HEALTH, HOUSING AND COMMUNITY-BUILDING IN TRIESTE

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INTRODUCTION

Community building can be identified as a key issue of urban regeneration, particularly in those urban areas afflicted by vulnerability, socio-economic deprivation and social exclusion processes related to poor health, unemployment or rather bad conditions of public housing estates. This paper explores the field of social cohesion processes in deprived urban areas, purposing the analysis of a local welfare programme composed by a *socio-health* policy-making, and developed in Trieste, the capital city of Friuli-Venezia Giulia Region, located in the northeast of Italy. *Microaree Programme, Health and Community Development*[1] was launched to improve the living conditions of some deprived public housing neighbourhood of Trieste, characterized by several deprivations associated with poor health, poverty and unemployment, together with the dire straits of the buildings. The aim of the Programme is to develop *community building* among the inhabitants of these areas with an approach based on both social and health issues. The paper stresses the possibility to generate an urban regeneration process focusing more on *welfare* provision rather than on *urban* renewal aspects. At the outset, it should be clear that my intention is to provide a descriptive analysis of a local welfare programme bringing an Italian contribution into the debate about the inclusive city.

The first section of the paper introduces the theoretical configuration, between two main aspects of the local welfare framework: the *capability approach*[2] and the *territorialisation of social policies*[3], drawn up to look at the integration processes of social, health and welfare policies within a single framework tailor-made for the specificities of local contexts. Second, the analysis grounds its reflection in an overview of *Microaree Programme*: governance, territorial distribution and the socio-demographic profile of the inhabitants are mentioned. Then, I will focus on the typical approach adopted to cope with the socio-health issues, followed by a description of the three main devices for local intervention: the Microarea's headquarter, the Contact person of Microarea, and Coordination & Discussion meetings. To conclude, particular attention is given to the three main strengths and weaknesses of the Programme.

THEORETICAL ASPECTS: POLICY INTEGRATION, PARTICIPATION AND *VOICE*

During the last decades, cities have become political actors in the European space and they search for legitimization and representative roles[4]. New forms of local governance based on inter-institutional partnerships, synergies between public and private sector, and new policy instruments were developed to reassemble a multitude of interests in the urban spaces[5]. Moreover, the cities are also the places of specific vulnerabilities and social polarization phenomena[6], particularly in public housing neighbourhoods, usually located in peripheral areas, identified as *pitfalls for social exclusion*[7], despite being designed to generate cohesion among working-class population. The social exclusion

experienced by these areas since the 1970s, called for a rearrangement of welfare provision shifting the attention on the local scale and the local networks resources[8].

To stimulate and build social cohesion, local welfare emerged as both the input and the outcome of the development of cities and regions as political spaces, with respect to: (i) the central role performed by local administrations; (ii) with respect to the agenda and issues, the consider the interdependence of factors conditioning well-being, such as housing, work, access to health services, etc.; (iii) with respect to policy approaches aimed to favour integrated interventions in harmony with the needs and requests of a community[9]. Based on this framework, the concept of Local Welfare Systems has emerged as a consequence of bottom-up and top-down pressures. Local welfare systems are defined as dynamic arrangements in which the specific local socioeconomic and cultural conditions give rise to different mixes of formal and informal actors, public or not, involved in the provision of welfare resources, in seeking to build social cohesion among local inhabitants[10]. *Microaree Programme* has been developed to integrate welfare and health policies with a strong link to the territorial specificities of the deprived urban areas of Trieste. Its approach can be read through two important aspects of local welfare paradigm: the *capabilities* of inhabitants[11] and the *territorialisation* of social policies[12] .

The first aspect is related to the community-building process: the *capability approach* by Amartya Sen stresses the important to stimulate citizens' capabilities and, in particular, their *voice*[13] in the public debate where health, welfare and housing service provisions are discussed. The term *capability for voice*[14] indicates the capacity of citizens to express their opinion and thoughts, and to make them visible in a public debate[15]. This kind of capability positively afflict the community-building in a context affected by lack of resources and social cohesion, and stimulate the inter-institutional and public-private relationships designed to contrast deprivation and vulnerabilities of urban areas, and hence to foster well-being.

The second aspect of local welfare that defines the theoretical framework is the process of *territorialisation of social policies*. It mainly concerns two intertwined phenomena: the territorial reorganization of public powers and the tendency to take the territory as the reference point for policies and interventions. The former is directly connected with the rescaling of statehood[16], while the latter is linked to the development of policy approaches and tools tending to perceive the contexts of public action in terms of resources, targets and actors[17]. Territorialisation in policy approaches, put simply, «consists of the tendency to adopt an integrated approach to a complex of problems (social, physical and economic) concerning the specific needs and resources of delimited areas»[18]. This integrated framework, combined with the *capability-building* processes, refers to a twofold relationship between *place* and *people* in policy approach, that gives attention the participation of inhabitants in the programmes for their well-being.

MICROAREE PROGRAMME: AN OVERVIEW

The programme described here, officially named *Microaree Programme: Health and Community Development*[19], is a case of local welfare policy characterized by an integrated framework among social, health and housing issues, and it refers to the repertoire of programmes and projects aimed to the activation and participation of citizenship[20]. The programme, based on a previous experience called *Habitat* dating back from 1998, was launched in 2006 with rearrangement objectives in the socio-health policy-making, promoting a *street-level bureaucracy* within an inter-institutional framework that combines the citizens' needs and initiatives with a policy instrumentation[21] tailored for a recognition of the *voice* of inhabitants. The approach adopted by *Microaree Programme* stresses the importance of territory, seen as the outcome of a project action that aggregates a network of actors. At the same time, the neighbourhood is considered as the place for integrated urban programmes able to deal with the issues of housing, the private sphere of inhabitants, and the problems relegated in the

invisibility of the private lives, to be openly and publicly discussed e solved[22]. The socio-health policy making designed for *Microaree Programme* is disciplined by 10 *Obiectives of Microarea* [see Table 1], which are the guidelines for the actors involved in the street-level services within each targeted territory. The regeneration of the areas through a twofold *place-people* focus is determined by the fulfilment of the 10 aims.

Table 1. The 10 Objectives of Microarea. Source: AAS 1, Strutti (2007)

1	Achieve the highest possible knowledge about health problems of inhabitants
2	Optimise the interventions for the socio-health assistance at home
3	Increase the appropriateness in the use of medicines by the inhabitants
4	Increase the appropriateness of diagnosis
5	Increase the appropriateness of tailor-made healing or rehabilitative therapies
6	Promote self-help among inhabitants and administrations: *building community*
7	Promote the collaboration among administrations, profit and non-profit institutions, to increase and develop well-being in deprived urban areas
8	Achieve an efficient coordination among several services acting in the same territories
9	Promote equity in the access to healthcare services
10	Increase the daily well-being of most vulnerable inhabitants, in their living place

Microaree Programme tests an approach that holds together three dimensions: *local*, *plural* and *global*[23]. This threefold approach concerns the attachment of public action to the local contexts, the involvement of the plurality of actors and the potential formal and informal resources carried by the citizens, and the entirety of vulnerabilities and difficulties experienced by the inhabitants of the target-areas, by intervening together on *places* and *people*.

Governance

Microaree Programme (MA) was set up by the Alderman for health and social policies of Friuli-Venezia Giulia Region, albeit it was launched in 2006 by an agreement – disciplined by a Memorandum of Understanding – between three institutional actors: the Health Authority (ASS 1)[24], that is the main actor of the Programme, the Municipality of Trieste, and the agency for Public Housing (ATER). In the political agenda for years 2005 and 2006, the Programme has been included into the *PAT* (*Piano delle attività territoriali*), which represents a policy plan focused on local action focused on welfare issues. In addition, during the following years, the Third Sector has been included in the policy-making of MA, in particular the social cooperatives entrenched in the Trieste territory. Although social inclusion and citizens' participation are two main points of the Programme, the governance is directed by an institutional network lead by the Health Authority, aimed to apply WHO's guidelines about the adoption of a *social* viewpoint on wealth and health issues, assumed here with the 10 main objectives of MA [see Table 1]. In order to foster social cohesion, the Programme found during the last years the help of volunteering associations and single people, included in social activities to stimulate cohesion among inhabitants and local actors. The governance arena made up for the Programme can be synthetized as shown in Figure 1.

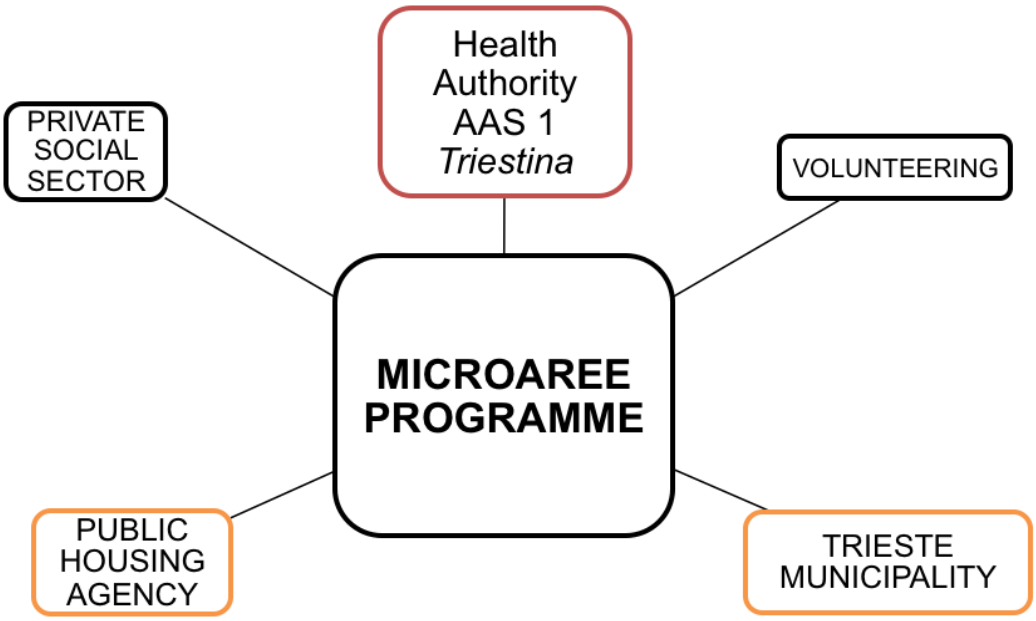

Figure 1. Governance of Microaree Programme. Source: author's construction

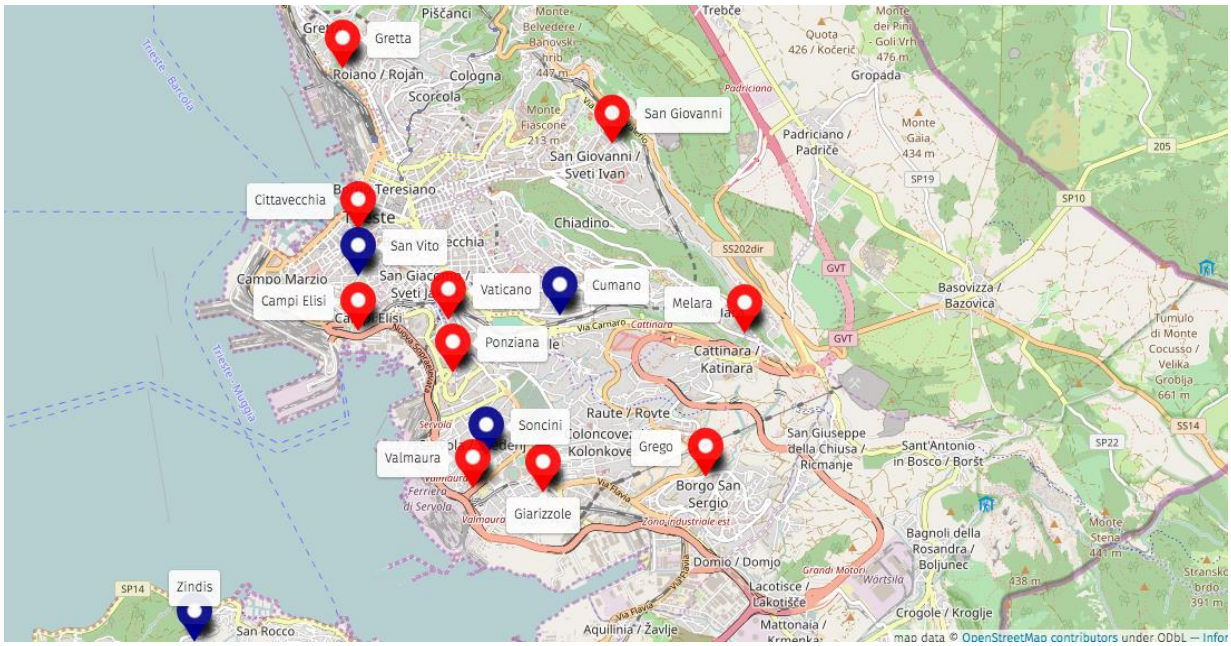

Figure 2. Localization of Microaree in Trieste. Legend: red ones, Microareas born in 2006, managed by Health Authority; blue ones: most recent Microareas launched by the Third Sector. Source: author's construction with OpenStreetMap

The *micro* scale of the intervention of MA is legitimized by the selection of a narrow band of territories within the Municipality of Trieste, coinciding with the public housing neighbourhoods, particularly widespread in the city. Therefore, the Programme is designed through an *area-based* planning that redefines the territory as a dynamic entity that is active and *under construction*»[25]. The core of the governance is not the urban regeneration of the areas, but rather the promotion of local development through an integration of multi-sector actions [26], focused on social and health issues. The regeneration of the areas can be seen as a consequence of the local welfare system developed through socio-health policy actions.

Today, 16 Microareas are established in Trieste and its surrounding area: within the Municipality, the first 10, established in 2006, are under the control of the Health Authority (together with Municipality and ATER help), whereas the newest are managed by the Third Sector (see Figure 2). In the surrounding areas two more Microareas are established: Zindis, in Muggia, backed up by the Muncipality of Muggia, and Villa Carsia, in Opicina Municipality, to assist the mental health facility (CSM, *Centro di Salute Mentale*). The latest Microarea was launched in Monfalcone, a multicultural town up north to Trieste[27]. In all of these Microareas, some devices are designed for local intervention on *place* and *people* to guarantee the *territorial action* of the Programme.

Demographic profile

The number of inhabitants of these areas legitimizes the intervention on the micro scale of public housing neighbourhoods. The population of the target-areas of the Programme goes from 800 to 2500 inhabitants. A more detailed overview per each Microarea within the Municipality Trieste is illustrated in the pie chart below (Figure 3), dated 2014. These data provides a first glance about the population of the areas.

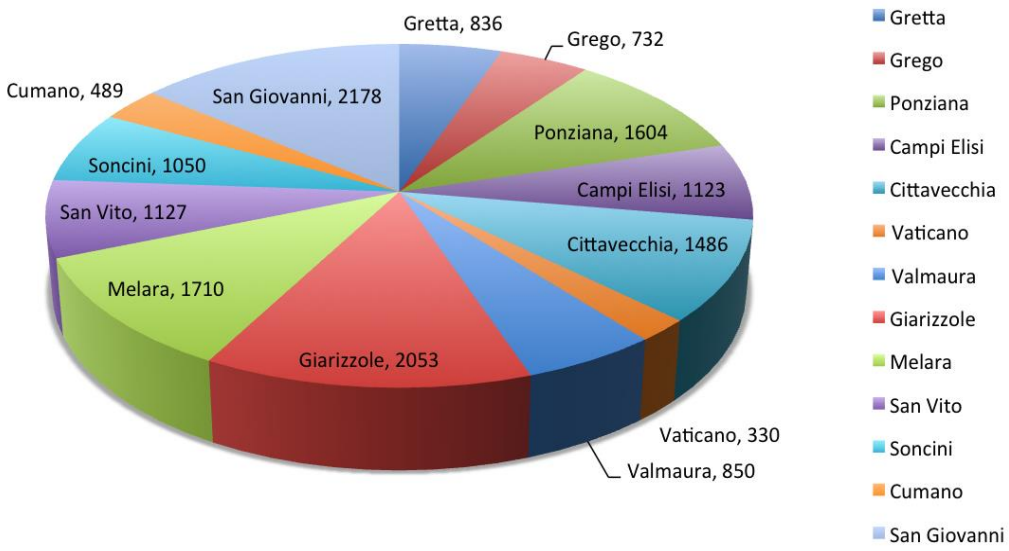

Figure 3. Number of inhabitants in each Microareas
Source: author's construction on SIASI-AAS1 data (2014)

But the main demographic feature that affects MA, and the whole city of Trieste, is the high number of elderly people. SIASI-ASS data (2014) count 3973 *over65* inhabitants in the 10 *historical* Microareas, equivalent to the 34% of the whole population (13429 inhabitants). In order to gain a better insight of these numbers, Figure 4 illustrates the ageing index values for each of the 10 Microareas launched in 2005. Simply, if the value is higher than 100, more elderly people (+65) lives in the area than the youngest population (0-14).

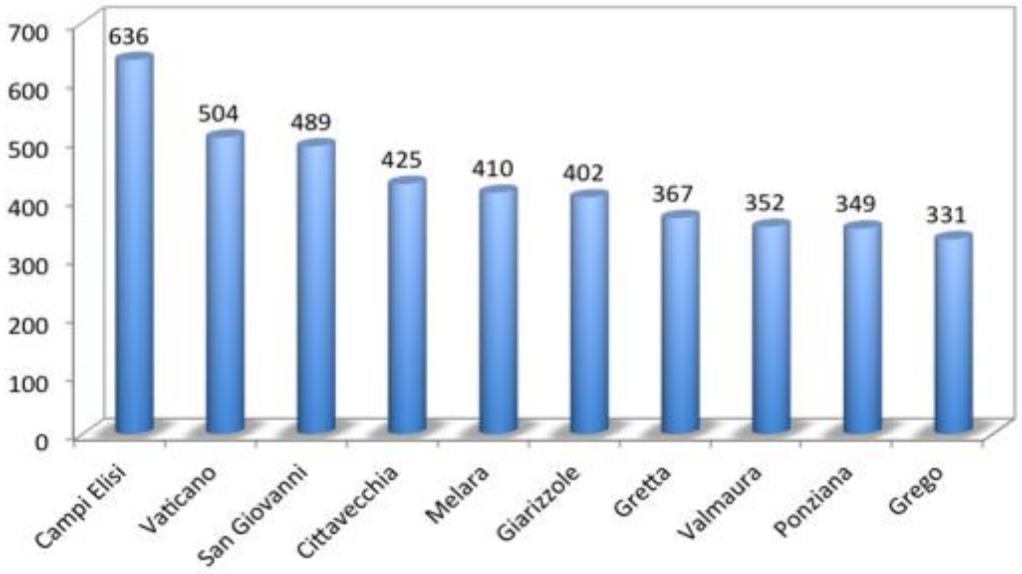

Figure 4. Ageing index in the 10 historical Microareas. Source: SIASI-ASS 1 data (2014)

From places of care to the care of places[28]

The high presence of elderly population implicates some issues related to socio-health assistance. MA considers *health* and *social* as one dimension; its policy-making focus the attention to the *social determinants of health* (WHO), seen as the main element for inhabitants' well-being, within their living environment. A long process of psychiatry de-institutionalization, historically rooted in Friuli-Venezia Giulia Region, determines the attention on the social issues of health. Indeed, the so-called *Basaglia Law*[29] introduced in 1978 the fundamental switchover from psychiatric hospitals to territory, implying the definitive closing of the first ones, together with new community-based healthcare services, embedded in the territory. More than twenty years later, the National Framework Law 328/2000 introduced the integrated system of social services, pursuing, in a way, the de-institutionalization pathway began with the *Basaglia Law*, hence focusing the social services on the street-level. In 2006, Friuli-Venezia Giulia promulgated the Law n. 6/2006 (Act of Enforcement of the National Law 328/2000), to restructure the appropriateness of expenditure for health services, together promoting street-level socio-health services. The Regional Law moves citizens' positioning «from a *non-choice* condition of passive consumption in socio-health benefits, to an active position arising their *voice*»[30].

This approach can be summed up in the shifting *from places of care to the care of places*, where territory turns into the field of action to cope with citizens' needs. In other words, territory is seen here as a *setting of services and amenities*, where to activate service-to-citizens in an inclusive way, working for the co-production of well-being[31]. This approach also moves closer the local institutions, in particular those dedicated to health and social services, to the inhabitants. In addition, it implies a change of perspective in health issues that moves from the curing disease to promotion of health in deprived territories.

DEVICES FOR LOCAL INTERVENTION

The setting of services deployed in the target-areas of MA Programme shall consist of some devices designed for the concrete local intervention. Within an integrated socio-health perspective, the neighbourhood can be seen as a core where to aggregate different forms of vulnerabilities, and at the same time, where to set off new forms of participation, starting from a common field of interest related

to well-being. The MA allows the redefinition of territory as setting of services, acting as a *medium* between the socio-health service and the urban target-areas, hence affecting the co-production of well-being. MA Programme has developed new forms of intervention over the years, opening up new scopes of inter-institutional discussion, until receiving European support in one precise project[32].

The target-areas of *MA Programme* are the destination of socio-health interventions activated through specific devices drawn up of a *reach-out* action that transform the public spaces in a mediator for an active listening of citizens needs by the local actors involved in MA's policy-making. The devices enhance the citizens' *capability for voice* on the one hand, and the role of MA's operators *on territory,* on the other hand; they are fundamental tools of a socio-health street-level structure designed by the Health Authority, which constantly monitor their outcomes. The devices of local intervention can be summed up in three categories[33].

(1) Headquarter of Microarea: it is the physical place where all the local activities within each Microarea take place. The headquarter is usually located in an apartment of the public housing estates, and it contributes to the decentralization of health services, working on the strengthening of the ties between citizens and institutions. It is the *place of social cohesion* of Microaree Programme. Each headquarter has the own map of the target-area.

(2) Contact Person of Microarea: he/she coordinates the Microarea, promoting socio-health integration processes and community-development; he/she manages all the networks of actors involved in the policy-making of a single MA acting as an *active tutors for health*, especially for taking-over the most problematic health conditions.

(3) Coordination and Discussion Meetings: devices aimed for the confrontation between MA governance actors and Health Authority, on a monthly basis, and within each Microarea, on a weekly basis, to observe and discuss the critical points within every single target-area.

These devices allows the local intervention aimed for the community-development, stimulating a pathway that, despite a lack of physical urban regeneration, has revitalized the numerous public housing estates contexts over twelve years.

CONCLUDING REMARKS

Community-development, together with the regeneration of deprived urban areas, is a key issue of the local welfare. *Microaree Programme* has positively affected the health service provision in Trieste on one hand, and the social cohesion in the target-areas, on the other hand. The *micro* scale responds to a twofold need: on one hand, it acquires a zoom lens on the territories able to improve the efficacy and the appropriateness of the socio-health expenditure. On the other hand, it transforms the territory itself in a field for community-building and citizens' participation and activation. With regard to the first point, the health indicators certify the considerable effect of MA Programme. In particular, the Programme affected the reduction of the hospitalization rate. A research made by the Health Authority (ASS 1; 2014) show a 28,7% decrease of the rate in the first 10 *historical* Microareas: from 192,3‰ (year 2005) to 163,6‰ (2013).

With regard to the second point, a wide range of social inclusion activities has been developed over the years. *MA Programme* supports the autonomous initiatives purposed by the inhabitants, providing an institutional framework to strengthen and improve them (for e.g. an handmade laboratory called *Made in Zindis,* community gardens, participative lunches held at the Headquarter of Microarea, etc.).

It can be argued that *Microaree Programme* concretely applied the guidelines traced by the local welfare conceptualization, both paving the way for an urban regeneration process through a socio-health policy-making.

However, three main weaknesses affect *Microaree Programme* and its outcomes. First of all, the local welfare system[34] developed in the public housing estates of Trieste can be identified as a good practice within a fragmented framework as it is the Italian local welfare, where practices of community development on local scale are not widespread in the entire country and their effectiveness depends upon regional intention to focus on local welfare development to regenerate deprived urban areas. Hence, there is a problem of *reproducibility* of the Trieste's best practice, that at the same time enhance the limits of local dimension: local policies are likely to be confined in the local dimension itself, and to run out *tout-court*, hence remaining exposed to that uncertainty typical of the experimentalism[35].

Secondly, in *Microaree Programme* the issue of urban regeneration is incomplete due to less attention paid to the physical and aesthetic renovations of deprived estates. The health-led regeneration of *Microaree Programme* is a fundamental *informational basis*[36] on which is possible to build further regeneration processes, but it needs to be more integrated with urban planning. Thirdly and finally, the data provision is at stake, because the Health Authority – main actor of the governance – calls for new kind of data to certify the efficiency of the Programme, but this challenge is still under examination because the main problem faced by the local operators concerns the difficulty to measure all the activities and the duties carried out. Therefore, the need of data arises the issue of *quantification*[37] that must be taken into account. In this respect, the constant increasing of associative relationships built within the MA Programme is under analysis: a research unit from the university of Turin and Udine is working on data-building to certify the success of the implementation in terms of *social capital*[38]. The MA planning corresponds to the policy-instrument of urban projects[39], «made up to caring places and people […] to enhance the existent social practices and to mobilize local resources»[40]. The description of Microaree Programme purposes, finally, one main suggestion: the *micro* dimension as a field of regeneration practices and projects shall be identified as an essential tool to reduce the divergence between the policy design and its implementation, where usually the best policy intentions evaporate.

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CITIES, COMMUNITIES AND HOMES: IS THE URBAN FUTURE LIVABLE?
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THE SIGNIFICANCE OF PUBLIC OPEN SPACE TO PHYSICAL ACTIVITY AND PREVENTION OF OBESITY IN JEDDAH, SAUDI ARABIA

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INTRODUCTION

According to the World Health Organisation, non-communicable diseases have become a major cause of mortality and morbidity globally scale and are increasing rapidly. These diseases include obesity and other related heart diseases, hypertension; Type2 diabetes, hyperlipidemia and some cancers.[1] In recent years, obesity has become an issue of international concern because it is rapidly rising across both developed and developing countries. It is linked to these serious chronic diseases. It has become a major public-health threat and a leading cause of preventable death.[2] In England, for example, it is estimated to be the fourth largest risk factor contributing to deaths after hypertension, smoking, and high cholesterol.[3]

In Saudi Arabia, recent research has confirmed the results of international studies in which the high prevalence of obesity has been attributed to differentiated exposure to unhealthy food stuffs and obesogenic built environments that discourage physical activity. The obesity crisis has become a leading public-health concern. This, in turn, has led to campaigns to combat obesity. These promote a healthy diet and encourage an active lifestyle by enhancing access to safe places for walking and physical activity at the city and neighbourhood levels.[4] However, there is still little understanding of how physical environments and social factors affect the low level of physical activity which has promoted obesity and health inequalities in residential areas. There is extensive literature examining the relationship between obesity and the built environment, but these studies are mostly restricted to the developed world. They not only focus on exploring correlations rather than direct cause and effect, but they also provide contradictory evidence about the links between the built environment, physical activity and obesity.

This study addresses the significance of public open spaces for physical activities and the prevention of obesity in Saudi Arabian cities. The paper is based on a trans-disciplinary approach of urban planning, design, and public health. It summarises the outcomes of empirical survey conducted in Jeddah between September 2015 and March 2016. The survey utilised qualitative focused group technique for data collection and explore the collective perceptions of users of public spaces within residential areas in Jeddah in relation to physical activity. Based on the results of the previous research study that commenced in Jeddah, the themes of the qualitative approach have been developed.[5] The

recent Saudi Health Interview Survey (SHIS) reveals a trend of increasing overweight and obesity among Saudi population.[6]

Moreover, despite the fact that the age structure in Saudi cities the last two to three decades has demonstrated a trend towards an ageing population, the population still young. This can be attributed to the large number of foreign immigrants who are mainly middle-aged and to prevailing social attitudes which favour large families.[7] In line with this, our research focuses on a population of young people (16–20 year olds) where incidence of overweight and obesity is high.[8] Moreover, we make recommendations for the establishment of effective government intervention in order to develop healthy life-styles, while suggesting legal ways to improve the design quality of open spaces in our cities and neighbourhoods.

Obesity, Physical activity and the built environment

Evidence from the literature shows that obesity is a multifactorial epidemic caused by biological, social, cultural, behavioral, and environmental factors; but its two major risk factors are physical inactivity and extended high energy-dense food intake. Current solutions, carried out at individual and community levels, are based on pharmacosurgical interventions, but these seem to be insignificant for weight control. These encouraged researchers to look at other significant factors that may help reduce obesity and promote a healthy lifestyle. As a result, recent studies confirm that the form of the built environment is relates strongly to people's health and well-being.[9]

Physical activity' has been defined as 'any bodily movement produced by skeletal muscles that require energy expenditure'.[10] Different types and levels of intense physical activity have been identified, including bodily movement, active play, walking, dancing, biking, water activities and organised exercise. Physical inactivity has been identified as the fourth factor causing mortality, causing an estimated 3.2 million deaths globally. Physical activity is an essential foundation for physical and mental health and an important factor in reducing the risk of obesity and its related diseases. It also serves to reduce stress, anxiety and depression.[11]

Despite the known risks of physical activity and the difficulty of getting enough of it to prevent many diseases, there is a global trend towards inactivity. Recent WHO estimates reveal that one-third of adults across the globe are insufficiently active. In Europe, 10% of mortalities can be attributed to inactivity.[12] In the US, the Centers for Disease Control and Prevention indicate that, although most people understand the potential of regular physical activity in protecting them from chronic diseases, thereby improving and extending life, only half of all adults and about one-third of children and young people reached the recommended level of physical activity of 150 minutes per week. This in turn means that the vast majority of the population experience inactive lifestyles and are consequently at risk of cardiovascular diseases.[13]

In public health studies, the term 'built environment' refers to the habitat that influences a person's level of physical activity.[14] Much evidence suggests that the environment has various effects on health, including physiological, emotional, social, spiritual and intellectual wellbeing. In this sense, the obesogenicity of an environment refers to the influences that our surroundings, their spatial and socio-cultural features, opportunities, or conditions of life have the potential to increase energy-dense food intake and encourage sedentariness. This, in turn, raises obesity levels.[15]

Research on the effects of the environment on health has been growing rapidly because the treatment of obesity based on behavioral and educational interventions has been limited and unsatisfactory.

Therefore, many researchers believe a multi-displinary approach is needed in order to tackle how the built environment influences physical inactivity and obesity. This holistic approach to healthy urban environments must be employed for investigations into which environments encourage high food intake and sedentariness. This is urgently needed in order to explore prospective long-term and effective approaches to reducing obesity.[16]

In contemporary urban environments, it is difficult to maintain sufficient levels of physical activity (e.g. walking, exercising and cycling). This is due to objective environmental measures as well as theoretical socio-cutural factors. The first can be categorised as follows: safety, availability, convenience, local knowledge, urban form, aesthetics, and neighbourhood support.[17] Social barriers to exercise include community relationships, personal preferences, cultural and language hindrances, self-esteem, and issues un-conducive to physical activity.[18]

Physical activity and obesity in Saudi cities

Before the surge in economic growth that began in the late 1970s, the social environment in major Saudi cities was relatively cohesive, with well-integrated communities. The physical environment was organised around centrally located squares and streets which supported pedestrian travel for daily activities such as travelling to mosques. Urban spaces were not only reserved for assembly and everyday communication, sociability and trade; they were also the major elements providing cities and neighbourhoods with their unique character and aesthetic experiences.[19] Such neighborhoods were compact and characterized by high-density dwellings, neighbourhood shops, and narrow streets that provided direct paths from place to place. These traditional areas facilitated walking and, in the modern period, cycling, providing daily activities. It was then common for children to walk and cycle to and from schools, making for robust demands on energy almost every day.[20]

With the growth of oil revenue, strategies were created to implement housing and transportation projects in major cities. This resulted in a drastic fragmentation of the urban fabric. As in Western countries, new zoning regulations and the creation of modern residential and commercial areas allowing for a range of lifestyles, the traditional compact city disappeared. These changes in the nature of the built environment altered the patterns of daily life dramatically and changed people's attitudes towards outdoor areas and their perception of public spaces. Streets and public spaces became utilitarian areas rather than facilitators for social interaction. All this contributed to the emergence of an obesogenic built environment.[21] Such an environment encourages unhealthy eating, sedentary lifestyles and weight gain. This resulted in increased obesity among children, adolescents, and young adults as well as the middle-aged and elderly. Al-Hazzaa, Abahussain et al point out that the high rates of obesity in Saudi adolescents are not inherent, but reflect major changes in lifestyle. Saudi Arabia now has the highest rate of obesity in the world, which exposes its population to great risk for Non-Communicable Disease (NCD) mortality.[22]

Obesity affects all segments of the Saudi population. In a comparative study of Arab regions, 34.7 of the population in Saudi Arabia are obese and about 69.6 are overweight.[23] This suggests that age-adjusted rates of obesity and excessive weight in there are among the highest in the region. Data from the 2013 Saudi Health Interview Survey [SHIS] involving 12,000 households show that 28.7% (3.6 million) of the total population aged 15 years or older were obese, being about 33.5% for women and 24.1% for men. This is based on a body mass index of 30 kg/m2 or greater.[24]

Moreover, the findings of the 2013 survey confirm a strong association between obesity and inactivity in Saudi Arabia, demonstrating that 46.0% of men, and 75.1% of women are physically inactive. The results of a more recent cross-sectional study reveal a higher prevalence of obesity among adolescents in private schools in Saudi cities. According to this study, higher rates of obesity were remarkably high among adolescents across all ages. Excess weight and obesity extended from 39.9% to 45.6% in men and from 30.4% to 38.7% in women..[25]
Comparing these results with the 2005 national survey (which had a similar sampling frame and methods as the 2013 survey), It can be observed that between 2005 and 2013 obesity decreased by 4.4% for men and 10.7% for women (Fig 1).

Figure 1: Percentage changes in distribution of body mass index (BMI) categories from 2005 through 2013 for men and women in Saudi Arabia.
Source: Memish, El-Bcheraoui et al. 2014.

Source: Memish, El-Bcheraoui et al. 2014.

This overall decline in obesity can be attributed to the policy changes in health affairs.[26] Although obesity has diminished, its health concerns have not been addressed. The findings of the 2013 survey indicate that obesity and body mass create most of the leading NCDs, such as ischemic heart disease, diabetes, elevated blood pressure, hypercholesterolemia, and hypertension. This confirms the results of the Global Burden of Disease studies of 2010 and 2016 which reveal that body BMI, high fasting plasma glucose and dietary risks remain the top risk factor for disability-adjusted life years (DALYs) in Saudi Arabia. Life expectancy in Saudi Arabia in 2013 was 75.8 years for men and 80.7 years for women. Although Saudi people live longer lives, they are not in fact healthy. This in turn increases public health expenditure and reduces the quality of life.[27]
The high level of sedentariness among Saudis has intensified the prevalence of excessive weight and increased obesity and the burden of related diseases – a major public-health concern over the last decade. This has forced the government to make extensive investments in implementing several public health programmes to reduce the risk of obesity, focusing on self-awareness and behavioral changes. Although the government has made tremendous improvements in this objective in a short period, rapid

changes in lifestyle have led to a disease burden which requires quick intervention to resolve the prevalence of excessive weight and obesity.[28] As some researchers argue that an environmental approach is urgently needed in order to promote greater health through physical activity and healthy eating decisions. Without this, government interventions will prove ineffective.[29]

METHODS

Our basic objective is to explore the significance of public open spaces for physical activities and the prevention of obesity in Saudi Arabian cities. We hypothesize that Saudi urban open spaces discourage a healthy lifestyle. To test this, while reviewing existing literature, we combine data gathered from an empirical survey conducted in Jeddah between September 2015 and March 2016. This gauged the perceptions of public space users regarding physical and social measures supporting or constraining physical activity. Jeddah (the second largest city in Saudi Arabia and the biggest in the Mecca governorate) was chosen as a case study to examine new public spaces on the basis that wealth from oil revenue created an extreme example of a rapidly developing and expanding city in an economy emerging since World War II (Fig 2).

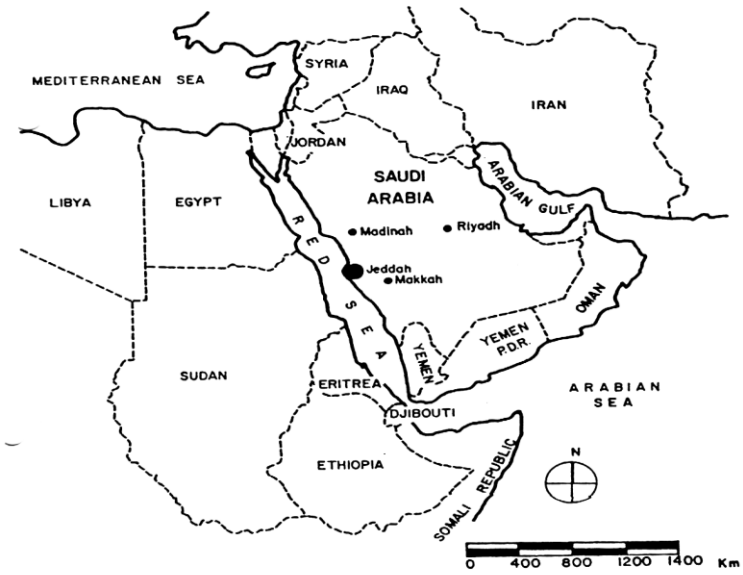

Figure 2: Geographical setting of Jeddah

We conducted our empirical survey using a flexible qualitative research approach informed by focused groups to gauge collective perceptions of public space users. We explored aspects of the built and social neighbourhood environment regarding physical activity. The sample consists of 51 participants (26 males, 25 females) aged between 16 and 20 years. The sample focused on secondary school (high school) and college students, whom we divided into six separate focus groups. Saturation was reached with 51 participants **(Table 1).**

The focus groups were conducted within the school and college. Four schools and two colleges were invited to take part (female students from CBS public administration and male students from Science collage, KAU). Respondents were given opportunities to question further inquiries. The focus groups

were digitally recorded, anonymized and transcribed in order to generate a substantive code. The collected data were managed and classified into themes, then analysed and categorised to establish an analytical framework for the issue.

Table 1 Focus group coding
Fieldwork, Jeddah (September 2015 and March 2016).

Focus	Description	Number Participants	Male	Female	Age
FG1	College Science students	10	10	-	16-20
FG2	College CBA Business female students	8	-	9	16-19
FG3	Secondary School Male students	8	8	-	16-17
FG4	Secondary School Male students	8	8	-	16-18
FG5	Secondary School Female students	8	-	8	16-17
FG6	Secondary School Female students	8	-	8	16-18
Total	-	51	26	25	6-20

FINDINGS; VIEWS OF RESPONDENTS

Our study reveals concerns about the relationship between perceived and objective environmental factors and a health-related lifestyle. These are concerns regarding the barriers to and the enablers of greater physical activity in public spaces. Respondents were asked: When you go out for recreational purposes, where and when do you usually go and with whom? Are there parks or outdoor spaces near your home that you visit? How often do you use this park per week? About how long would it take you to walk from home to this park? Which activities do you engage in when you go to the park? Which chief factors limit activity in your local park? How friendly is your neighbourhood? Do you enjoy walking there? How satisfied are you with safety concerns? To what extent do gender differences and work affect physical activity?

Limitations of the natural environment on physical activity

When respondents were asked how often they used outdoor spaces, their answers varied. One man, living in a high-density residential cluster close to endless ribbon commercial developments along major roads, spoke of pollution from vehicle exhaust fumes alongside land pollution caused by fly tipping. Hot weather and a lack of shaded areas reduced public presence in outdoor spaces (Male FG4 Ms). Another commented:

> In our neighbourhood, the municipality usually irrigates the plants and grass of parks with sewage water. This emits unpleasant odours. Moreover, people and shopkeepers dispose of waste in the streets. Given our unfavourable climate, all these things discourage people from sitting or exercising outside (Male FG4 Ms).

A female respondent said 'we don't go to these spaces and don't like to walk in our own neighbourhood, where people may recognise us. Instead we go to a bigger open park away from buildings or to the Corniche where we can breathe fresh air in the evening when the temperature declines' (female FG5 Fs). Others commented that high temperatures and sunlight in Jeddah are unbearable for most of the year. Male secondary school pupils said they usually play football in the playing field after sunset in summer and one hour before sunset in winter, when the weather becomes moderate (male FG4 Fs). One declared that daytime attendance is higher in winter than summer. Thus morning use of open spaces is limited in both winter and summer, and most people start outdoor activities in the evening (male FG4 S).

We went further, asking respondents who use pubic open spaces within their neighbourhood how many times a week they go there; responses revealed summer/winter variations. One said they go twice or more per week in summer and four times or more per week in winter. Others agreed that 'The basic problem of extreme weather conditions in Jeddah for most of the year has been ignored in designing these spaces, most of which are exposed to extreme heat and sunshine' (male FG3 Ms). Although the difference in the number of visits to public spaces is especially marked in winter, it can be inferred that the inclement microclimate conditions play a major role in deterring outdoor pursuits.

Limitation of the physical environment on physical activity

Asked how far respondents thought their physical environment encouraged physically activity they agreed it did the opposite. The fragmented urban fabric of dispersed residential areas widens distances between buildings, forcing people to use cars. One respondent pointed out that wide streets separate people, establishing a feeling of being unable to move freely and safely within their borders. This, in turn, reduced personal contact (Female FG2 B). Another said the gridded subdivision of his neighbourhood encouraged depersonalised public spaces that limit public access and physical activity (male FG3 Ms). Another maintained that the way their neighbourhood was planned with open spaces surrounded by wide streets encouraged speeding vehicle noise. All these discouraged any public presence in outdoor areas and diminished the quality of social interaction (Male FG1 S). A colleague added that 'the speed of cars is the main obstacle to letting toddlers play outside, as well as to adult socialization' (Male FG1 S).

Regarding the quality of residential public space, one respondent said 'the lack of integration in how segmented urban spaces are designed, constructed and maintained signifies a lack of quality in the physical environment' (Male FG1 S). Another from a different group argued that 'traffic movement without pedestrian walkways makes it difficult for residents to access available outdoor spaces (Male FG4 Ms). A classmate commented: 'this explains why these public spaces are lifeless, since they don't offer greater opportunities for physical or cultural activities' (Male FG4 Ms). Describing open spaces within his neighbourhood, another added that:

> They are not designed to fulfil human needs, since many basic aspects of comfort, like environmental protection, suitable sitting areas and accessibility, are ignored. They are neither suitable areas for families to sit in, nor are they safe for children, teenagers or adults to play in' (Male FG4 Ms).

From this it is clear that existing public spaces have insufficient features to attract people to them. Moreover, the separation of buildings and public spaces by streets, and the emphasis on motor car

movement, allowing cars to be driven directly to every single house means these spaces are no longer regarded as areas where people can exercise in a relatively safe environment.

Perceptions of the social environment

Across all focus groups, perceptions of individuals' own neighbourhoods and the city displayed negativity toward multiculturalism. Perceptions of over-saturation by international immigrants and low-skilled workers accompany a growing sense of uncertainty, anxiety and insecurity; these have become important factors shaping attitudes. One respondent living near commercial facilities described the social mix of his area as dangerous, saying it had been appropriated by street vendors (Male FG3 Ms). Another said the undefined territories within her neighbourhood had led to an uncivilized public attitude towards the disposal of domestic waste, litter and vandalism (Female FG2 B). Such a situation, another respondent said, makes residents feel unable to cooperate with their neighbours, degrading the quality of outdoor spaces and negatively affecting the public sense of safety and security (Female FG2 B).

A respondent from al-Zahra, a low density neighbourhood, described outdoor areas there as dangerous, lifeless and neglected (Male FG3 S). A classmate from the same area said it was a place for young outsiders to drink alcohol or take drugs (male FG3 S). Respondents in his focus group agreed that the area has a reputation for drug taking at night. Participants' perceptions of their environment confirm previous findings that modern planning and design regulations in residential areas have intensified ethnic heterogeneity, creating a cosmopolitan urban environment in older areas and producing lifeless suburban neighbourhoods. This limits physical activity in outdoor areas.

Perceived safety and gender differences

When asked how safe their neighbourhoods are, respondents were concerned about open spaces used as hide-outs for criminal and anti-social behaviour, as well as areas permitting the free movement of strangers without any controls. Although responses varied, there were similarities. All groups viewed the absence of safety and security measures as major limiting factors for physical and social activities. Most agreed that insecurity can be linked to the social mix of their areas (Male FG1 S). This made it difficult for residents to interact with each other, resulting in a lack of responsibility, encouraging uncivilised behaviour and a reduced sense of safety (Male FG3 Ms). There was broad acknowledgment that children and females were more at risk because of harassment by teenagers, workers and strangers (Male FG4 MS). One female respondent confirmed that the heterogeneity of her area increased anti-social behaviour, raising the risk of harassment or theft, especially after sunset (Female FG5 Fs).

Regarding how far gender differences and concerns for privacy affect physical activity, CBA respondents said that because religious and social norms restrict women in public places, they did not like to walk or exercise in their own neighbourhoods. Instead they went outside their district to places like the modern mall in the city (Female FG2 B). They also went to the northern seaside (Abhor Beach), where they usually have out-of-town houses where they could exercise and enjoy a sense of privacy from men (Female FG2 B). Others, who live in poor and middle class areas such as al-Salamah, said they stayed at home to avoid the harshness of public places, enjoying indoor

recreational facilities or going out to the Corniche area where they could freely enjoy walking activities while covered with their veils (Female FG6 FS).

Cultural change and the sedentary lifestyle

As a part of the process of re-shaping society in a modern image, the built environment has been shaped to suit the new economic development. The prevalence of low-density residential suburbs at a distance from places of work, shops, and communal and recreational facilities has stimulated increasing private car use, reducing opportunities for walking and cycling which were previously integral parts of daily life. Cultural change created a fragmented urban environment promoting excessively sedentary behaviour and inhibiting physical activity. This promoted weight gain and obesity as nutrition grew more Westernized, encouraging a high intake of unhealthy high calorie food.[30]

Throughout our discussions, most respondents argued that daily routines in a harsh climate discourage physical activity (Male FG4 MS). Most did not have part-time work, as full-time students they lack time for physical activity (Female FG5 Fs). Those with part-time work indicated that getting a job has prevented their participation in exercise and sport activities (Male FG1 S). One respondent, who used to go to with friends to a nearby football pitch, got a part-time job as a salesman in one of the biggest city malls and could no longer play regularly on week-days and week-ends (male FG1 M). Another said lack of time and changes in entertainment culture forced him to resort to indoor recreation while contacting relatives and friends through social media (Male FG3 MS).

DISCUSSION

Barriers for Saudi city-dwellers (especially for the 16 –20 age group) differ across participants. We stress physical factors such as well-maintained public open spaces and perceptions of socio-cultural qualities like a low sense of security. Respondents mentioned other factors limiting their physical activity, including school homework, sociability, family obligations, long commutes, television, and generational change. As Leyden (2003) argues, these contribute to a decline in levels of physical activity and social capital.

Perceptions of environmental qualities varied between the six groups, and between different residential areas. Understanding how lifestyle behaviours contribute to obesity alongside people's attitudes towards outdoor areas could serve to guide urban design practices by establishing effective intervention strategies.[31] This study is a first step in an on-going research programme to explore qualitatively how far perceptions of spatial qualities in Saudi cities affect the physical activity of the above age group, where the probability of becoming obese is great and health consequences high.

Respondents confirmed what Johansson, Sternudd et al had pointed out – that perceptions of urban design qualities such as upkeep and order, and the presence of well-maintained parks and streets can motivate physical activity. Despite the decline in physical activity, male participants engage in formal physical education in secondary school, through gym membership, or organized sport activities. They take regular exercise, play football on pitches or informal spaces, and walk along pedestrian trails, at the Corniche or in commercial streets. Women indicated that shopping malls with cafés or gated compounds at the seashore which encourage passive activities and a sedentary lifestyle are best for

exercise. The way people interact with their built environment to inspire walking could resolve barriers to physical activity and serve as guidance for urban planning and design intervention.[32]

Regarding the social environment, there are too many international immigrants and low-skilled workers who create uncivil behaviour, anxiety and insecurity. These are important factors shaping attitudes towards outdoor areas. Our findings confirm that modern planning and design either increase density or social heterogeneity or produce lifeless and fragmented suburban neighbourhoods.[33] These districts have created undefined territories which encourage antisocial behaviour and jeopardise the social realm. Subsequently, individuals withdraw from public life, reducing their physical activity.[34]

How far does Jeddah's built environment discourage women's physical activities? In Jeddah, as elsewhere in the country, gender segregation is strictly applied in all public spheres. Traditional requirements for privacy impose social restrictions on women's dress, regulating their movement in public areas by socio-cultural and religious norms. This reduces their physical activity. Concerns about safety affect women's walking, limiting their presence in public places. Shopping malls are the most important places for women. This is because a most malls exclude single men during afternoons and evenings. These locations are regulated by a security and surveillance system which increases the sense of safety for women. Moreover, air conditioning helps increase the level of comfort, creating attractive places for women to walk while wearing their veil.

CONCLUSION

Our findings expand current urban design and public health literature by illustrating ways in which modern built environments have discouraged physical activity in public spaces everywhere. Several previous studies have documented links between objective and subjective attributes of the built environment and physical activity carried out within it. The World Health Organization pointed out[35] that the standard of urban living is key to people's health. Creating fresh or under-used opportunities for physical activity can reduce obesity through a healthy lifestyle. In recent years, the Saudi government has realized the urgent need to combat obesity, which has become a leading public-health concern. It has promoted organised campaigns to combat obesity through a healthy diet, but this still lags behind expectations. Fundamental changes in public policies are urgently needed to tackle the negative impact of the built environment on health and inequalities in physical activity.

Our study shows deficiencies in the way Saudi urban public spaces are planned and designed in relation to needs for physical activities for people aged from 16–20. It suggests that, if an active lifestyle is to be achieved, Interventions are needed to enhance access to safe places for walking and physical activity at city and neighbourhood levels.

We indicate an urgent need for further empirical studies exploring links between public spaces within residential areas and physical activity to discover which types of public places can encourage exercise. Further case studies will provide a greater database concerning the causes and impact of inactivity across various groups differing in terms of age, gender, ethnicity, education and employment. This will provide multiple perspectives about promotion of physical activity in Saudi cities, allowing us to reach broader conclusions. Future work should ensure homogeneity among participants (e.g. recruitment from the same neighbourhood or stratification by comparable areas). Future research should use objective measures such as accelerometers and GPS to give a more precise picture of activity levels.

Our study offers a valuable baseline for studying countries of emerging economies like the Gulf States, all of which struggle with high obesity rates linked to inactivity. Despite its limitations, this is a timely contribution to urban design and public health literature. Our primary research is robust, asking and as far as possible answering many questions about the links between built environment and physical activity. This study is specific to a particular region which may not be widely covered in the literature. It is one of the first qualitative studies exploring physical activity and perceptions of the environment in our selected age group, building a bridge to older public health literature. We consider it a valuable reference for policymakers and academics, whom it may help by providing fresh community-planning strategies to promote an active and healthy lifestyle.

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GOVERNING LIVEABLE CITIES: A QUESTION OF AGENCY? PUBLIC HOUSING AND NEIGHBOURHOOD COMMUNITIES IN THE CITY OF BOLOGNA

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INTRODUCTION

The city has been always considered an economic and political promise of emancipation. It represents the possibility for self-government, integration and also freedom from local communities' constrictions. Nevertheless, as Park and Burgess write, the city is a space of individualization to which we owe the major economic and cultural productivity, but also the scenery where all the pathologies of the modern society arise. Urban inhabitants lay opposite hopes on the city: it has to be both homeland and machine; site of both anonymity and identification; place of indifference and recognition at the same time[1]. Authors such as Simmel and Goffman, analyzing urban life, underline that "civil inattention", indifference and distance are the most frequent interaction models[2]. Due to processes of urbanization and globalization, moreover, several transformations have affected the city. For instance, spaces traditionally destined to favor extra-familiar socialization interactions have lost their characteristics and have been replaced by sites producing simple fun or by dormitory neighbourhoods. Consumerism, tourism and cultural industry have become fundamental aspects of urban policies; the quality of urban life has become a merchandise itself with the proliferation of «non-lieux», namely transition spaces not characterized by identities and relations, but by anonymity with the only function to increase the consumeristic desire and/or to accelerate daily practices[3]. Eventually the rise of «network society» has empowered the space of flows, disfavoring the space of places[4] and leading towards a detachment of social practices from physical territories. In this sense, cities are currently agglomerates of fragments, privatized public spaces and mono-functional sites, that have caused what Becattini calls «*sfarinamento dei luoghi*»[5]– «pulverization of places»: the bond between places and individuals has been lost; these ones have forgotten their personal capacity to take care of and to reproduce the territory and, in particular, the urban territory, considered as the life environment of citizens and local communities.
In the light of all this and wondering whether the urban future is liveable, this work aims to present two dimensions of urban life specifically addressed by the conference – home and community – focusing on the agency-institution duality that characterizes both.

LIVING FOR BEING CITIZENS, BEING CITIZENS FOR LIVING

Two dimensions of urban living are taken into consideration as two sides of the same coin: living as the need of having a house and living as the need of being part of a community. Both needs are considered

here as basic conditions for making a city liveable. Moreover, what joins these two sides is the dependency on personal choices taken by individuals on the one hand and from public policies implemented by local governments on the other hand. The former is part of individual agency, seen as «meaningful human behaviour, individual or collective, that makes a significant difference in the natural and/or social worlds, either by direct, unmediated action or through the mediation of tools, machines, dispositives, institutions, or other affordances»[6]. The latter – local government – as a form of institution, a miscellany of social forms, including conventions, rules, rituals, norms and values lodged in particular types of social structures. The term is commonly applied to specific formal organizations of government and public service[7]. In other words, an institution is a «socialized structure, that is, a relatively enduring *ensemble* of structural constraints and opportunities; it comprises a more or less coherent, interconnected set of routines, organizational practices, conventions, rules, sanctioning mechanisms, and practices that govern more or less specific domains of action»[8]. The interaction between actors and institutions is a dialectical interplay, defined as «reflexivity-recursively dialectical», characterized by two dimensions: «the "structurally inscribed strategic selectivities" of the institutional frame toward actors and the "structurally oriented strategic calculation" of actors toward institutions»[9]. Actors may contribute to reproduce or transform institutions, taking into account structural constraints and windows of opportunity, while institutions select or privilege some actors' strategies and tactics recursively, responding to actors' strategic behaviour in a more or less consistent way[10].

The activation and recognition of citizens' agency, on the one hand, and the variation in institutional definitions within the state, on the other hand, are leading towards the conceptualization of a new form of citizenship and new governance arrangements. Traditionally the citizenship was assumed as a "package" of rights and duties that individuals received on an imagined natural national identity; it was, indeed, a received citizenship. Nowadays, rights and responsibilities are more linked to residence in the city, based on a scale-sensitive and inhabitant centred conception. Moreover, citizens directly contribute to achieve their status as citizens by actively participating in city management: this is called achieved citizenship[11]. Intertwining definitions of urban citizenship – e.g. cit(y)zenship by Kazepov[12] or urban and regional citizenship by Eizaguirre et al.[13] – with the one of active citizenship by Moro[14] gives the following statement: citizenship as the self-organization of citizens in a multiplicity of forms for the mobilisation of resources and the exercise of powers in public policies; for the protection of rights to achieve the end of caring for the city and developing common goods.

This more active role of citizens is also a consequence of deregulation processes from central to sub-national governments, that during the last decade in all Europe have led to forms of multilevel governance[15]. What is called «governance-beyond-the-state»[16] is, indeed, characterized by the increasing importance of non-state actors, among which private economic subjects and parts of civil society that share and overlap tasks and responsibilities[17]. When bottom-up initiatives implemented by these actors are integrated with traditional top-down policies as a method to combine different practice of participation and to produce social innovation, it is possible to identify forms of bottom-linked governance. Their aim is to include alternative mechanisms of negotiation between various groups and networks, potentially empowering local governments and communities[18].

Therefore, one way to evaluate the extent of democratic and liveable governance in cities will be to consider the extent to which institutions favour a public sphere in which citizens can argue their cases and present innovative proposals for local practices of citizenship. As obvious, this is not always the case: is citizens' voice heard? Are new forms of governance really inclusive? Are policy instruments really personalised? Below, two cases within the urban context of Bologna will present two different assets of interaction between actors and institutions, certainly affected by the type of resources and decisions that the local government has to deal with.

Public housing in Bologna

The housing issue emerged after industrial development processes from the late 19th century in Italy as well as in other European countries[19] when large flows of people moved from rural to recently urbanized parts of cities. In 1901 in Italy: «1,204,908 families occupy 1,158,049 houses; 46,859 families cohabit with others. 12,633 families live in cellars (especially in Southern cities), 342,870 families live in slums, 16,172 families in Milan and Turin barns and attics. […] In Milan, over 70% of 330,000 inhabitants is forced to live in houses with two rooms; 39% of houses has only one room, very often with bathrooms in common, in yards or landings. […] The situation is similar in other cities that are experiencing their first real "industrial moment" during the same years»[20]. In this period, the Luzzatti law was implemented (L. 31 May 1903, n. 254) from which the I.A.C.P. (Istituto Autonomo Case Popolari) was instituted, that was the managing authority of public houses whose purpose was to deal with the housing problem of the lower classes[21].

With the passing of time, the need for housing suffered deep changes. On the one hand, the meaning of "house" itself changed; on the other hand, the need for housing increased: above all, after the economic crisis started in 2008, the level of absolute poverty also increased[22] as well as the "area" of vulnerability, or so called "grey zone", that caused for people huge difficulties to support the houses costs[23]. Additionally, an important part of the public stock was alienated after 1993[24] and, with the Constitutional reform of 2001, the housing issue passed from the state authority to local decisional power and budget redistribution. If today the term "housing policies" concerns different types of support or intervention, in this case we are considering the territory of Bologna and the tool of public housing, that is the main welfare instrument to allow families with specific socio-economic conditions to access a public house with evidently lower prices than the ones on free market[25].

We have to point out two fundamental elements of this welfare instrument. The demand for houses evolved over time. The latest report on Bologna highlights its evolution. A total reduction in demand was recorded[26]; at a percentage level, the demand presented by foreigners is on the increase, the demand for family units of one person or two people has decreased and the entire demand for family units with three or more people has increased[27]. From another point of view, we emphasize the modification regarding the requirements that one family unit needs in order to apply for a public house and to produce valid documents. From 2015 to 2016, two relevant transformations occurred. Regarding the working location, it is no longer possible to apply, if the applicant is working in a foreign country; it is, instead, possible to apply for a public house if the applicant is about to start a new job in the city of Bologna. Moreover, a time limit has been introduced based on the criterion for the applicant to have been living or working in the territory of Emilia Romagna for at least three years, an element that was not present in 2015.

Following these modifications, the waiting list has continued to diminish and it is plausible to conclude that this results in the attempt to enhance the demand presented by local resident and rooted Bologna citizens.

Social Streets: active neighbourhood communities

The Social Street is a form of neighbourhood community. The first group was born in September 2013 in Bologna. Today it is possible to count approximately 450 Social Streets, around 40 of which located outside the Italian borders. In Italy, they spread more in the North and gradually less in the Centre-South of the country: Milan and Bologna are the cities with the highest number of groups – around 80 and 70 respectively. «The goal of the Social Street is to socialise with neighbours […] There must not be profit purposes but just social ones. Social Street does not support any political, religious or ideological vision; it brings together people with the only criterion of proximity among residents in the urban area»[28]. Indeed, since every group is organized around a specific urban area – street, square, park, part of

neighbourhood – the territory takes on strong importance, because it becomes the basis for the construction of a shared identity among Social Street members. These share, moreover, three main values: sociality, gratuitousness and inclusion. The sociality, as well as being the primary need from which the experience was born, also becomes the most important goal to reach. All the initiatives organized have the single purpose to stimulate citizens in socialising and participating in common projects. Semantically the gift, used as first mean of interchange, implies gratitude and allows to activate virtuous circles of reciprocity and trust[29]; in addition, every donated goods and services implies a «bonding value»[30]. Lastly, the access to Social Street is open to everyone for total participation, regardless any ethnical, political or religious differences.

Among all the neighbourhood groups there is a huge diversity due to geographical position, collocation within cities, birth year, type of activities, internal organization and relational network established with other socio-political subjects of the territory, such as the Municipality, the local administrative institutions and any other kind of associations. The following analysis is based on soft data collected for an explorative research on two of the older and more active Social Streets in Bologna: Via Fondazza – the very first group – located in the centre of the city and Via Duse, in the "San Donato" neighbourhood in the outskirts[31]. The motivation for participating in meetings and activities is the same for both groups: meeting neighbours, creating new relationships, sharing the daily life in the area and exchanging help and tools when possible. Although in both cases the first aim is the sociality among members, once the latter gather and organize activities in the urban area, the attention towards the care of territory arises. The result is an attempt to improve the public space and the management of common goods. Nevertheless, the two Social Streets have carried out different strategies to reach a similar result. Since the beginning, the residents of Via Fondazza have preferred to avoid any formal dialogue with the local institutions, underlining that this kind of relationship is not strictly necessary to achieve the sociality among neighbours. This choice is also affected by two other aspects: the fear to be exploited by the public administration and the will not to be identified as a possible solution to local collective problems. Moreover, an official collaboration with the Municipality would imply the mandatory institution of an association, which is totally against their main principles. On the contrary, the Social Street of Via Duse immediately tried to establish a network of collaborations with other actors in the area, in order to foster citizens participation and activation for the management of commons. To do so, the administrators of the group[32] decided to formally sign a pact with the local government, through which citizens can have the task to take care of an abandoned or no longer used public space and the Municipality admits to them economic and factual helps. This policy tool, known as *Regulation for commons' shared administration*, was implemented for the first time in 2014 in Bologna. The collaborative acts signed between citizens and the local government need to «care, re-generate and manage urban commons, tangible and intangible, functional to the individual and collective wellbeing[33]». Already in 2001, the Italian constitutional reform – Article 118 – defined the principle of subsidiarity, underlining the support that State, regions and municipalities must give to the free exercise of general interest activities by citizens as individual and as organizations.

Although the two Social Streets used different strategies – informal and formal – they both have been able to increase the sense of community, by consequence of taking care of urban commons and of experiencing this in common[34]: in the case of Via Fondazza, the dialogue with the institution allowed them to install two benches and some bicycle parking areas; in the case of Via Duse, the collaborative act formalized the use of a public notice board by the group's members for advertising their activities/events/projects and for exchanging useful information.

CONCLUSION

Is governing a liveable city, therefore, a matter of agency? Is citizens' agency activated and recognised? In the cases presented above, the interaction between institutions and agency is completely different. Within the housing framework, public policies turn out to be a disincentive for specific categories of population, in particular foreigners and people who have not been living or working in Emilia Romagna – the region of Bologna – for at least three years. These individuals do not have the possibility to apply for a public house anymore. On the contrary, residents of the two Social Streets have the opportunity to dialogue with the local government in order to share a little part of the city care. In this case, public policies – through an informal help or an official regulation – turn out to be an incentive for the activation of citizens.

Considering about the two different situations, public houses are a private – meaning that in any case it has an owner - and scarce resource and it regards, moreover, an economic issue. The urban territory is, instead, a common and open resource, less related – or at least less directly – with monetary issues. This results in opposite behaviours of the institution: an "extra-management" of the houses and the criteria to have access to them in the first case and more accountability – or sharing of responsibilities – in taking care of specific public spaces in the second case.

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[20] *Ibidem*, p. 41. This is a translation from the original text.
[21] We underline two important housing plans realized by the Italian government during the '900s. With the law 28 February 1949 n. 43 the Italian Parliament approved the plan to increase employment supporting the construction of worker's houses, under pressure from the ministry of labour. The multi-year life plan (seven years, then duplicated) well-known as Ina-Casa was based on State and employes' taxes and allowed the building of 335,000 houses. After that, the Gescal Plan (GEStione CAse per i Lavoratori) was launched with the law 14 February 1963 n.60, financed like the latter and concretely subsidized until 1992.
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MAINTENANCE AS ALTERNATIVE TO GROWTH: NORTH MILAN BRIANZA RECOMPOSING POTENTIALS FOR SPREAD SETTLEMENTS AND OPEN LANDS BEYOND THE ECONOMIC CRISIS.

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INTRODUCTION

The urbanized region in the North of Milan is a dense built nebula, determined by the interaction of intricate and complex dynamics. These dynamics were not generated only by the exponential urban growth which followed a long phase of economic prosperity. In the same way, the deterioration and increasing abandonment of this context is not just the outcome of a deep economical and industrial crisis, but the demonstration that the spatial and social relationships of this context have changed. The economic recession has only exasperated the many contradictions and the deep conflicts that were already part of the context. If indeed, this urban territory has always been composed of fragmented identities, singularities, and autonomies, it is equally true that such elements have gradually shifted to a very extreme individualized framework. This pulverized the historical interdependence between the urban configurations and the communities that connoted the area for long.

This paper analyses and reinterprets the Milan's wide urbanized territory in the light of the conflict between its actual physicality and the end of main settlement patterns. The aim is to, therefore, investigate its elasticities, in which new declinations of welfare can be established, intended as new forms of well-being in the definition of the urban territories.

The concept of "Maintenance" will be proposed as a strategy to address the deep metamorphosis to which Milan's metropolitan area is currently subjected to, and where this term addresses the development of a scenario able to interact with incremental and long-term transformation processes of the urbanized territory and open lands.[1] The focus will be on Brianza, a Milan's metropolitan area located in the north of the region between Milan-city, the lakes and the pre-Alps. It is a low-density, but deeply urbanized urban system, which includes major factory concentrations of all sizes and a dense network of historic towns immersed in a spread that grew steadily between the 1960s and the first decade of the new millennium.[2]

Milan's Metropolitan Area and Brianza. Superimpositions.

Milan's Northern metropolitan region is under enormous pressure due to fragmented, yet massive, processes of urbanization. Surprisingly, these processes run parallel to opposite processes of gradual abandonment and underutilization of land, buildings and various types of anthropised spaces (Lanzani 2015, Vescovi 2009). From the Industrial Revolution through the phase of post-Fordist production reorientation since the end of 1970s, this area has been for long a fertile cradle of industry.

In recent decades, it has been specially focused on design furnishings, high tech components production and mechanical industry (Foot 2001). Its urban framework is characterized by thick infrastructures, compact historical nucleus, around which widespread urban fabrics have developed, finally resulting in extremely superimposed habitats.
The environment is defined by three river-valley systems along which agriculture was originally developed in order to supply textile industries that had been in the area since the beginning of the industrial development (Boeri et al. 1992, Carera, Cesaretti 2011). This had given rise to an extra-fragmented agricultural plot structure, though this is not the only reason which had reduced the agriculture to cropped fragments among low-density urban sprawl. Indeed, a soil consumption without rules has definitely played a more decisive role.
The contemporary organization of the extended Milan metropolitan territory, of which Brianza is the area that more than others condenses its main features, originates from a network of ancient towns and following developments, with Milan as its most intense point of concentration, but in a relationship of interdependence. Industries of all scales have been widely dispersed across the urbanized region, all linked to a trans-European infrastructure since the late nineteenth century. Brianza was from the beginning one of the most dynamic and rich industrial areas of Italy. Its complex and articulated configuration has been able to accommodate for long the different forms of urbanization that have followed, apparently without significant fractures (King 2015).

From interdependence to autarchy.

The urban evolution of the area has been through agriculture, industry, infrastructure, and a myriad of towns, giving rise to an extremely resistant and flexible framework. In the past, this framework has withstood profound political and social change, but without ever altering the characteristics of the fundamental settlements. The pattern of dense relationships between heterogeneous environments has always been deeply resilient. But since the end of 1960s, every urban element in this area has been individually conceived piece by piece, contributing to the formation of a fragmentary urban landscape of autonomous objects (Indovina 2009). This has been particularly evident not only in the multitude of superstores, business parks, and single homes located in the metropolitan area, but also and even more significantly, in the spread of industrial activities that are independent from the infrastructural nodes and the motorways network. In fact, their size, the family style managing, the perfect integration into low density environments, have made possible for them to develop a high spatial degree of autonomy (Bauman 2001, Settis 2010).
The economic and social microcosm scattered in infinite individualities, has been at the base of industrial prosperity until the last economic crisis (Bonomi 2012). But this growing parceling of land has slowly come to dismantle a system of relations that, at various scales, had previously constituted a textural datum within which new and disruptive urban dynamics had been elastically absorbed for centuries. The governance of Milan's metropolitan dimension was then split into a multitude of directions, leaving a free field to any local initiative and urban approach, and restricting possibilities for a unified, coordinated, and pervasive plan for Milan's metropolitan area (Secchi 1994).
With the last word mostly left to local municipalities, when not to real estate developers, they then have followed individual goals (Figure 1.). A tolerance of incremental expansion that created a scattered "go at it alone" spatial culture, and in which the previous frameworks have begun to crumble (Ingersoll 2008).

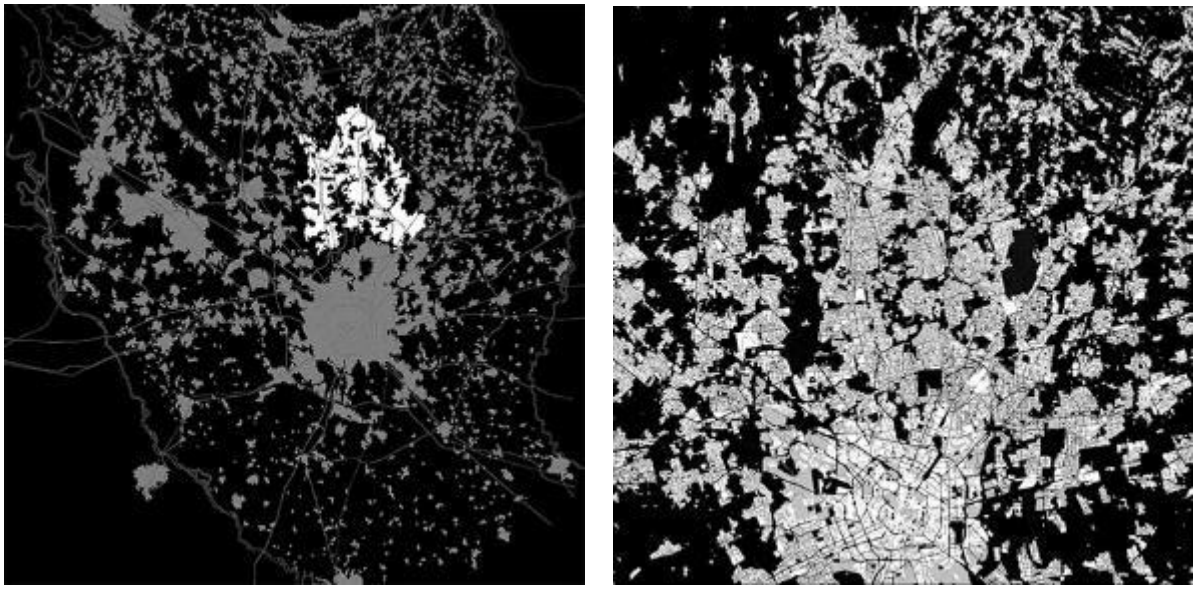

Figure 1. North Milan's metropolitan area and Brianza urban framework. Images by Autors

THE BRIANZA CASE-STUDY. DESTRUCTURING CONTRADICTIONS.

Brianza is an area of about 880 square kilometers, a population of more than 1 million people, a density of 1400 inhabitants per square kilometers. This huge density highlights the level of soil consumption, especially if we consider that the European average is of 113. The total number of active companies, which constitutes the largest economy in the area, is about 63.000. In 2011, there were 67.000 (ISPRA 2015). However, these data don't represent the actual economic crisis of the area. Indeed, unlike before the crisis, many of the companies consist of one or at most few workers. However, since the crisis begun in 2008, more than 9000 historical large manufacturers shut down, giving rise to a massive loss of workplaces, provoking the youth unemployment rate to reach 32%.[3] The decline process had of course a domino effect: shrinkage of habitats, demographic stasis, lower immigration inflow, and dramatic levels of youth emigration and mobility. At the same time, there was also a surplus of housing, collective utilities, and infrastructures. It needs to be pointed out though, that the deepest crisis manifested itself in the settlement model, which currently is no longer supported by a demand (Van Kempen et al. 2016). The issue of the lower demand cannot simply be analysed through the lens of quantity, but more critically, in regard to its consequences over a complex network of spatial relationships. The physicality of Brianza is in fact closely interconnected with the individualized communities that inhabit it, with their being on the territory as singularities disengaged from one another. In the territory that we are observing, it is therefore possible to see that the inhabitants do not recognize themselves anymore as part of a community – as there are no more personal interests that are shared – while the economic crisis emphasizes the weaknesses of the territory. The spatial effects of this in terms of end of a settlement and productive model have been mostly perceived as individual breakages, as punctual phenomena, hence compromising the possibility of any common constructive reaction.

While this widespread retraction dynamic is in progress, Brianza continues to be extensively built for speculative reasons, but also because of the central government policy to support agonizing business economy. To this we should add a dominant culture inertia in terms of investments by lending banks (Sassen 2017, Newman 2009). In our analysis, such twofold phenomenon is not set in terms of an aprioristic controversy between space and the bodies that occupy it. Rather, the focus of our attention is placed on the overall imbalance between the transformations produced in space and the dissipation of energy used to produce them (Figure 2).

Figure 2. Despite spread shrinking dynamics, the economic culture inertia still chases old building logics and speculations. Images by Marco Baccarelli.

DISTORSIONS

Three forms of 'distortion' can be therefore pointed out in the ongoing construction of the territory. Firstly, there is a mismatch between the measure of what is built and the actual infrastructure development that supports it, both in terms of population and production. Secondly, a contradiction emerges from ongoing territorial dynamics, which are moving in contrary directions and have opposite signs, since processes of addition are combined with phenomena of contraction in the utilization of existing resources. Finally, incremental, autonomous and self-referred processes of transformation seem to have worn out a large part of the social overhead capital, for example in terms of landscapes and infrastructures which define the primary quality of the territory (Innocenti 1985).

The spread allowed the inhabitants of the metropolitan area to realize their implicit and individualistic project accessing a diffused welfare. This had relied also on a very solid historical frame, which guaranteed a high and extensive quality to suburban and spread environments. In fact, the collective imagination sustained a living and working model which aspired to locate out of town, but with the facilities typical of a city at hand; to be part of a homogeneous social dimension, but cultivating the individualism; to open its own small factory or activity, but autarchically sharing the lot with the home; to lean on low traffic road network, but one step away from big interchange nodes. These are opposing and overlapping processes which excessiveness have in the long run caused rigidity of the general urban structure (Sapelli 2001).

Today, this urbanized landscape is deeply questioned by an emptying dynamic, resulting blocked, exhausted, and extremely expensive in the maintenance of the logics that generated it (Schlappa 2016, Tocci 2009). The territorial competition as paradigm of the relations between cities, forced by globalization and acknowledged in the European project, highlighted the limitations of many Italian territorialisation models and of their economical and social processes at the base (Secchi 2010).

The dynamic of incremental development of Milan's metropolitan area and Brianza, was first of all the outcome of a policy which counted on the individual initiative to implement a general urban development without much public investments. At the same time, there is in place a convenient permissive attitude of which to take advantage, and in which personal and local interests never linked to a wider common framework could proliferate (Amendola 2007). In this lack of shared strategies, new

settlements were built both as expansion of already existing urbanized areas and also from within the rural and densely parcelled lands, which thus gradually urbanized from within (Rosso and Tarocco 2008). The single families, with their human resources and capitals, have been the main makers of the contemporary metropolitan's region. But over time, such extreme DIY mechanism has become more refined, further being taken over by a network of specialized players, claiming their voices in formulating the urbanization agenda. Today, they keep on forcing the demand, thus deeply impacting a territory in the middle of a structural crisis. This has also affected the dominant urban forms. If at the beginning of this self-construction process the prevalence was a low density, made of single objects on lots - whether they were houses or factories or a mixing of the two - giving rise to a very thin sprawl, in recent times the urbanized spread landscape has changed (Amendola 2010, Sennett 2011). Currently, it is in fact urbanized through the diffusion of low density islands. These individual and wider units, colonizing the territory, increase the difficulties of managing the abandoned spaces. Assuming the economic and population recession increase as the basis of reasoning, if new spaces were to be occupied, others would be left, with the aggravation that the left space would be usually used and deteriorated, thus more difficult to recycle (Ross 2014). Furthermore, if the built islands will not be occupied, the effects on the land will be even greater. The containment of urbanized land and the rethinking of fixed capital does not only correspond to a logic of defence of the natural soil, but it is the condition for the redevelopment and recapitalization of already urbanized areas. Without any policy of containment in the next years, conditions of problematic coexistence between underused punctual and unit development are also to be expected (Lanzani and Zanfi 2011, Guggenheim 2010).

MAINTENANCE

The thesis presented in this paper is that new paradigms for the common good should be now taken into consideration, and that 'Maintenance' is to be firmly considered as a priority horizon for this kind of spread and already largely urbanized territories. In other terms, it means finalizing human activities to an economic and sustainable use of existing resources, while planning and managing the larger anthropogenic and natural systems that surround them. In the Italian planning context in particular, a 'Maintenance' strategy could allow a positive redefinition of compensatory criteria, for example the "public standard" as a regulatory instrument in planning, intended as sets of actions taken by individual developers in favour of the common good. The goal may thus be linking the building practice to win a planning permission to more widely strategic development scenarios for the territory, shifting from the concept of benefits for locals' to the one of benefits for whole urban systems.

Fitting within the actual conditions of the territory, compensatory actions could take the form of an individual participation to the 'Maintenance' – or the enhancement – of existing structures and spaces, rather than being conceived as an addition of extra spaces and structures to be destined to public services, as it currently is. 'Maintenance' should be therefore conceived as a project for the urban territory, and a concrete action. It should refer to a public project of the city, which includes a set of 'positive' individual actions, but that needs to be reformulated. Following the definition of a larger scenario of transformation, the identification and realization of concrete goals could finally expand the responsibility of individual transformations, in opposition to the current monetization of compensatory duties and public rights, which merely benefits public administrations, rather than communities.

Consequently, strategies for the discouragement of soil consumption should be made integral to a broader policy of territorial renewal. In this way, the intervention of urban development should be connected to policies promoting a redesign of the - public, semi-public or private - open spaces that are close to the development itself, in a genuine renewal of the existing policy. This should be defined as a form of intervention that departs from the autonomy of the single parcel, and engages not only the private

lot, but also the surrounding streets and the small landlocked open spaces in the urban fabric, as well as the peri-urban agricultural areas which are intrinsically connected to them (Figure 3).

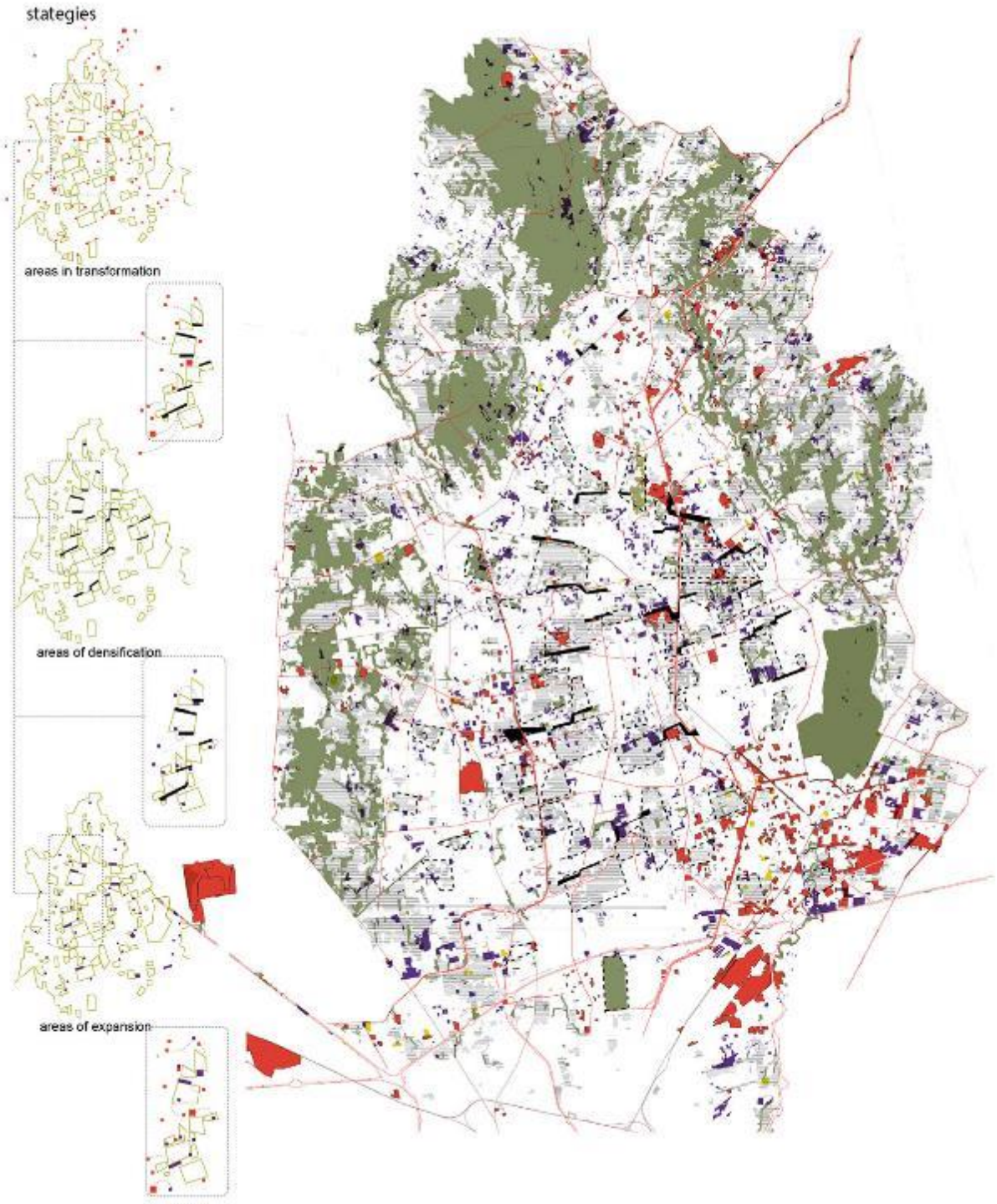

Figure 3. -The transfer of volumes coming from the thinning of the urban fabrics to be re-qualified, towards areas of high concentration for new construction or through the consolidation of free empty spaces. Images by Marco Baccarelli

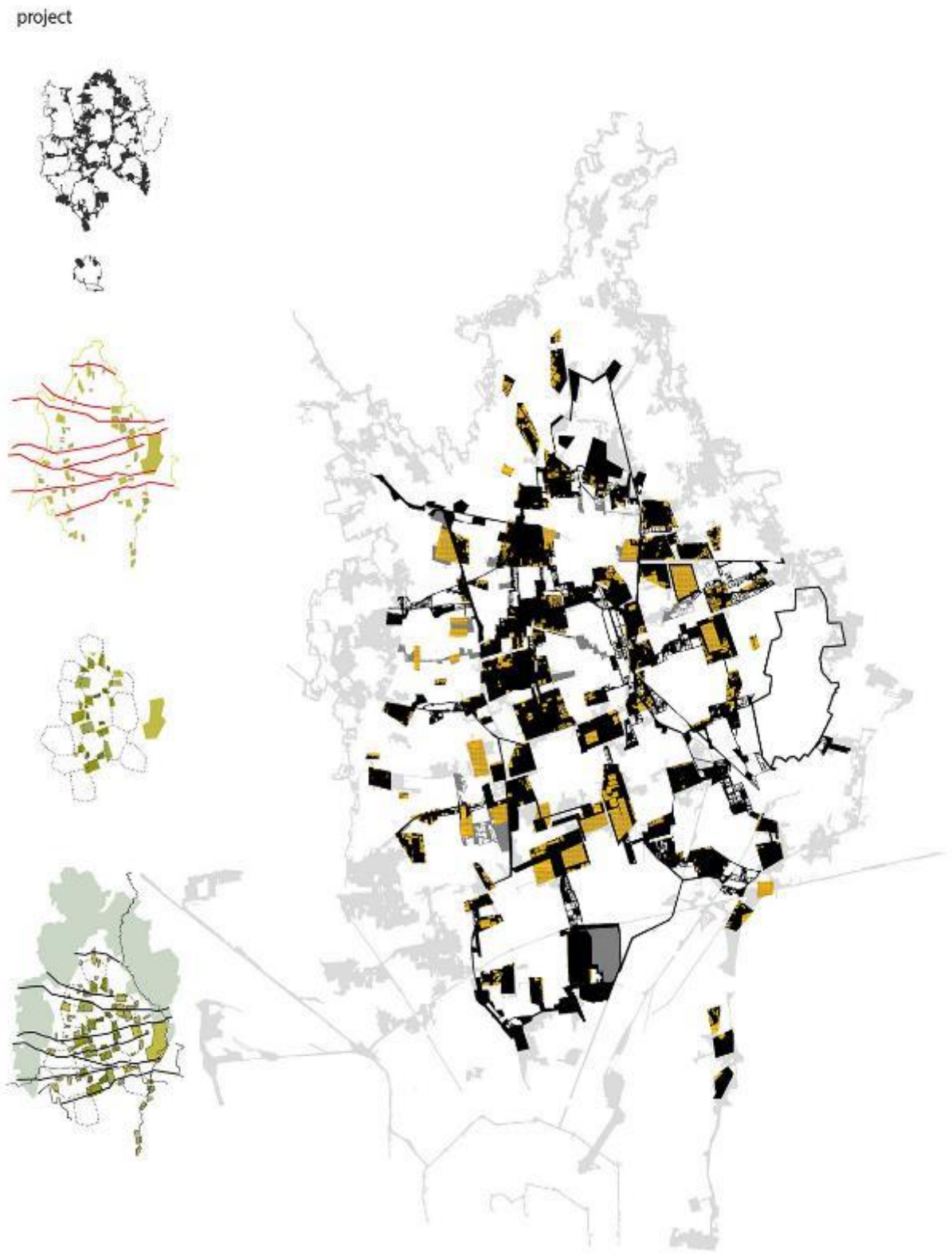

Figure 4. -The general re-systematization of the remaining open spaces and the infrastructure as a structuring space system - the "green rooms"- Image by Marco Baccarelli

The design of Maintenance

Within this interpretative framework, a design project can be intended as a powerful cognitive tool, able to formulate, at different scales, spatial strategies and articulations of space that could serve as additional and alternative models for urban transformation (Figure 4).

On the one hand, the design focuses on ongoing transformations and relations among different parts of the territory. Taken as a whole, the complex areas of forthcoming transformations hold a topical role both in structuring the urban environment they belong to, and in their collective potential as a system of areas spread throughout the territory. This is relevant especially in regard to the overall redefinition of forms and relationships with 'intermediate' scales. This means that the project should include dimensions considering the territory relationships among its local parts, that are reference scales often excluded from the territorial planning, as well as from the projects of single fragments. For instance, the project could enhance the residual spaces of environmental systems which are now landlocked and densify the urbanized borders.

On the other hand, the project should try to grasp the meaning of the emergent dynamics expressing an opposite sign to the additive processes that are prevalent today, trying to establish new ways in which the dynamics of transformation of certain urban fabrics may take place.

For instance, the project should set rules to requalify and concentrate changes within the already densely built urban fabrics rather than create dispersed expansions.

Two different tactics could be implemented, and from which to derive a series of design actions and attitudes to an overall strategy: the structuring of processes of splitting, through punctual densification of existing fabrics, instead of the consolidation of services or empty spaces in those places that should be areas of expansion; the shift of planned volumes from unbuilt areas whose value is recognizable in their emptiness, to areas that prove to be more suitable and strategic for densification (Figure 5).

CONCLUDING REMARKS

The Maintenance Design under the conditions identified by this research means, therefore, to concretely investigate and deal with issues of spatial and social justice, and the ways in which the social opportunities might be more equally distributed. Furthermore, it begins to address the ongoing environmental crisis, and the ways in which urban planning might provide an ecological agenda.

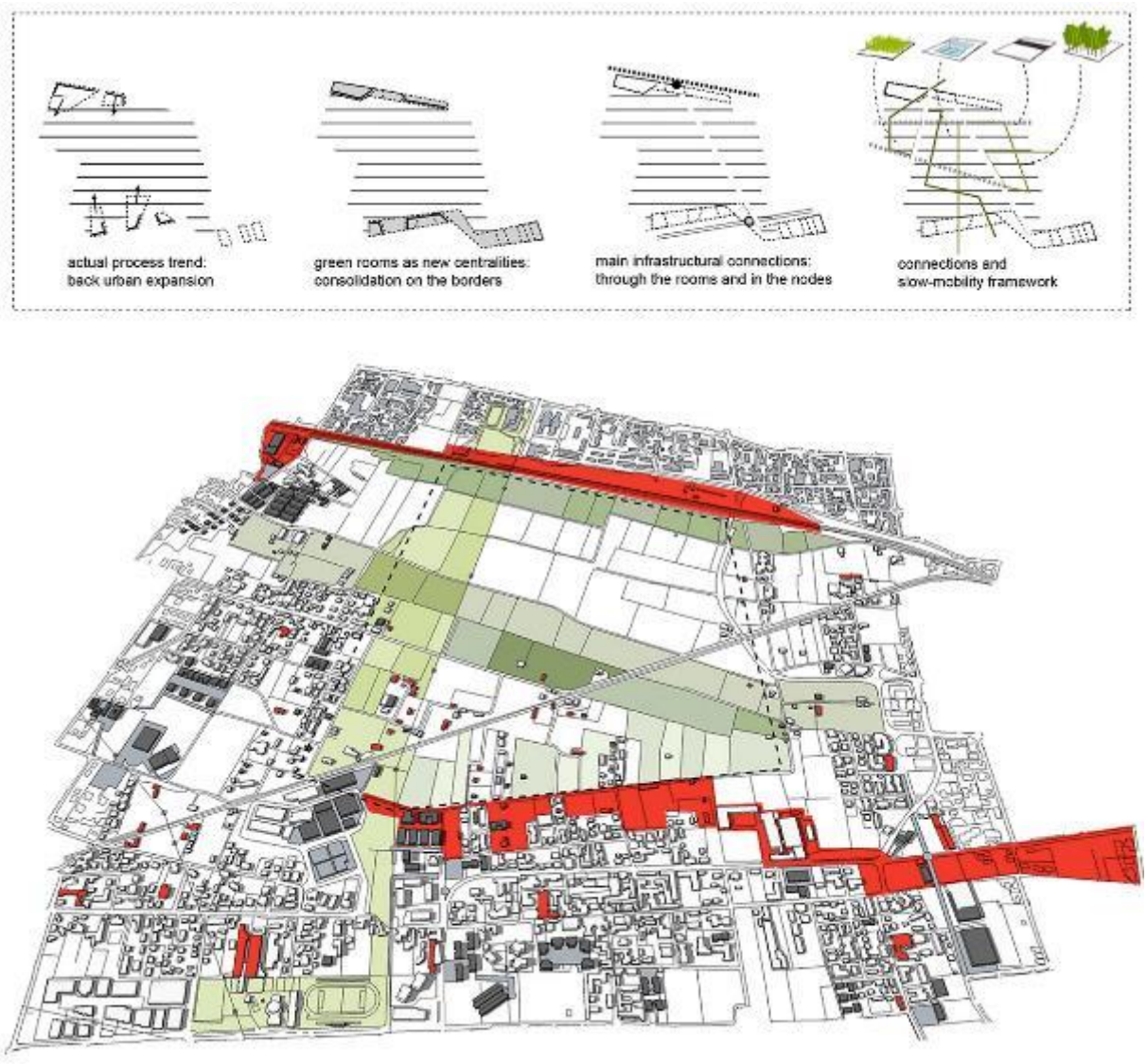

Figure 5. - Project exploration: Seregno "green-room": last 7 years development (gray) + project (colors)- Image by Marco Baccarelli

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[1] This paper is the result of the intersection of different research experiences gained by the authors on the Milan's metropolitan area. In particular, Marco Baccarelli PhD Thesis discussed on 2013 at the Polytechninc of Milan and further ongoing deepenings and Martina Orsini research and teaching activities on the same area conducted at the Polytechnic of Milan between 2003-2015, and later ongoing investigations as independent researcher and scholar
[2] Each second, 7 square meters of unbuilt land are urbanized in the area. The 35% of land in the Brianza area has been consumed, thus resulting the most built in Italy. For an exhaustive overview see ISPRA Report 248/2016 (Rome: ISPRA 2016).
[3]See Monza-Brianza Province ISTAT 2015 data. Furthermore, the 2016 NEET rate observed in the area is of 240,000. ISTAT, *Rapporto Annuale 2015* [Annual Report 2015] (Rome: ISTAT, 2015), 41-95

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INTERVENING IN THE CITY: CO-DESIGNING NEIGHBOURHOOD INFRASTRUCTURE WITH RESIDENTS OF A LONDON HOUSING ESTATE

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INTRODUCTION:

Infrastructure is about norms, standards and social organisation. It shapes categories like gender, family, citizenship [i]. Infrastructure is about power and politics. It determines who has access to standards of living and the political ecology that results from differentiated access [ii]. Infrastructure is also about resources and sustainability. Centralised supply-driven systems have been critiqued for hard wiring the resource intensity of everyday life at unsustainable levels [iii]. Infrastructure is rarely about co-design, although end users, even residents in their homes, are increasingly seen as key to achieving system aims and are described as 'co-managers' of national infrastructure systems by van Vliet et al. [iv]. Demand-side response activities provoke new research on how parts of infrastructure can be designed to bring users more reliably into the frame of resource management. However the resident's role is typically restricted to using the equipment on their side of the meter appropriately. From shower timers to time of use tariffs, information and equipment are being designed to bring user interaction in line with networked utilities' distribution priorities [v].

Engineering Comes Home takes a different approach, embedded in critical social theory [vi]. It challenges the starting point of infrastructure design, looking first to the home and it's occupants in order to involve them in the design of systems that supply water, energy and food. Co-design of domestic WEF infrastructure is new area of research [vii], although it builds on the theories and practices of design for sustainability [viii] and on value-sensitive design [ix]. In this paper, we outline the co-design pilot project that ran in 2016-2017 in a housing estate in south east London.

CO-DESIGN AS RESEARCH METHOD

Engineering Comes Home drew on two strands of design thinking to form the co-design methodology. The first strand focused on engagement using participatory design practices developed in the information technologies field. The second focused on disruptive interventions using product design approaches from the sustainability design field.

Participatory design

Participatory design has been a field of research and practice in ICT since the 1970s [x]. In it's early forms it focused on improving workplace ICT systems and supporting the users of technologies to create humane and ethical workplace environments. As IT systems have expanded beyond the workplace, participatory design theorists and practitioners have moved into domestic and other settings. This field has led to specialisms such as Value-Sensitive Design which incorporate alternative design principles based on 'human well being, human dignity, justice, welfare, and human rights' [xi]. It has also led to more open design practices moving first to user-centred design which observed people's practices to improve design, then to user-led design which put users in charge of identifying the design problem, to co-design which embraced both suppliers and users to work together in defining problem spaces and design solutions [xii]. At its core, participatory design is about improving the systems that serve people and emancipating the users through engaging them in the design process.

Design and Sustainability

If participatory design focuses primarily on human agency and social institutions supported by ICT, design for sustainability focuses primarily on the environmental impact of goods and services. It's origins lie in improving product performance although challenges such as the 'rebound effect' led design theorists to also consider product use. This has led to fields such as 'design for sustainable behaviour' which use design to change behaviour [xiii]. This approach has been criticised for prioritising the individual as the locus of agency and understanding behaviour through a rational choice paradigm based on normative assumptions which can obscure broader political questions about resource consumption [xiv]. Recent approaches to sustainability and design tackle some of these issues by drawing on Social Practice Theory to engage with resource using practices [xv], and Actor Network theory to move beyond the individual as the source of agency [xvi].

Design for sustainability as method can be speculative and allow for new possibilities to open up. It draws in the non-human world as partners and questions embedded power relations. Co-design as method widens the circle of those involved in the task and enables alternative knowledge and value systems to be part of the projection of the alternative arrangements. This combined approach was followed by the Engineering Comes Home team.

THE ENGINEERING COMES HOME CO-DESIGN PROCESS

The project put these design principles into practice in order to test whether the co-design of inner city infrastructure was possible. In this section we discuss the co-design process employed in our project on the Meakin Estate in Southwark[xvii] .

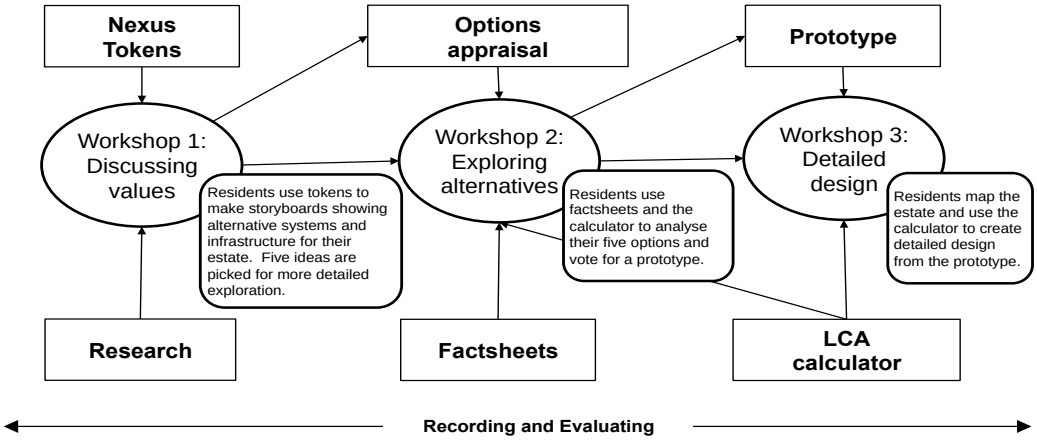

Figure 1: Co-design process for community scale WEF infrastructure

The co-design process was carried out in three half day workshops held in the estate's community hall and involved 19 residents (15% of all households). The process was run by the research team, supported by an external facilitator, videographer[xviii] and the local Tenants and Residents Association (TRA).

Workshop one: Discussing values

Workshop 1 elicited values relevant to domestic WEF resource management on the estate and generated ideas for interventions that might fit these values and the material configuration of the estate. 13 residents participated. We started small group discussions of ideas until we had a list of values reflecting all members' inputs.

We then used bespoke co-design tokens and equipment for discussing systems ideas. The tokens had icons representing aspects of WEF systems, a toilet, a flower, a plug for example. Participants were invited to play with these tokens, and construct narratives attached to locations within the estate (*Figure 3* and Figure 3).

Figure 3: Electricity story

Figure 3: Food growing story

In total participants created six narratives; food growing, electricity generation, gardens, food banks, two boards about re-using things and one with multiple narratives. As participants discussed each story key themes emerged. Waste came across as the most important issue for the group; reducing the volume of waste, and repurposing it into something useful. For example, Georgina[xix] explained

> *"my idea […is to] have a compressor that could make the bulk smaller. […now] everything on the floor and everything is blowing everywhere so those things could be avoided with proper bins."*

Flo commented

> *"If we had […] a notice board for household items, [then…] we could pass it on, like a cot […] someone on the estate could possibly want that cot, and we're recycling it. Plus from the money we collect from the glass, the clothes, could go into other factors for our estate, our environment, and for all of us for future generations."*

A second key concern was water. Mary commented "*I think water would be the best, to be able to recycle the water and to use it in something else .... Personally to me that would really help the estate".* The issue transcended the local estate level as Georgina argued *'It'd also be an example to other communities as to how much water we save. It's not just for us, if we transmit to other areas, other cities in Europe, other countries".* Although not everyone agreed. Neil argued against the ideas "W*e don't need to recycle on the estate, it's already recycled, centrally [by Thames Water]".* He did not see any value in the small scale savings offered by an estate scheme.

We had planned a narrowing strategy whereby a single issue emerged that the whole group would like to explore in detail. However we had more participants than planned which meant groups worked together on stories and were reluctant to narrow down the number of issues. Instead the group identified a set of ideas that they wanted the team to explore further. These were:

- water reuse for garden / home
- composting for garden
- reduction of food and material waste
- management of material waste / cleanliness of the estate

Through analysing the discussion the team were also able to draw out a matrix of participants' values that could be used to shape the design (*Table **1***).

Table 1: Residents' values for the design

Human	**Practical**	**Concerns**	**Aesthetics**
Community Building	Ease of use	Strangers	Pleasant to look at
Buy in from other residents	Achievable	Scale / quantity / uptake	Reduced rubbish
Wider education	Scalable		
Shared stewardship	Impact		
Care for others	Necessary		
Resilient / future			

The team created a shortlist of existing technologies that could fit into the estate and align with the values elicited. The five systems were wormeries, food growing, food sharing, rainwater harvesting, and waste compacting. For workshop two we prepared fact sheets for each of these systems and we developed a bespoke LCA calculator that participants could use to gauge the fit of the technology to their community and their estate[xx].

Workshop 2: feedback on design options

Nine residents came to the second workshop to assess the technologies and explore how they could be implemented within in the estate. We presented the five ideas, providing participants with fact sheets and showing them how to use the LCA calculator to assess different design criteria. The calculator had a scenario for each technology with adjustable input parameters such as volume of food waste, quantity and scale of technologies. These changed the volume of food that could be grown, or amount of CO^2 savings realised. Residents explored each scenario in pairs adjusting the calculator according to their assessment of what was appropriate for the estate. These context sensitive adjustments included:

- Levels community involvement: Clare, who'd been involved in other estate projects, decided only 50% of households would participate and limited inputs to this proportion of engagement for all scenarios. By contrast Penny decided some of the technologies could be designed to increase engagement. For the waste compactor, she put small manual compactors at each stairwell on the basis that residents would regularly see them and be encouraged to use them.
- Aesthetics and estate layout: Participants used their knowledge of the estate and of different community members' use of communal space. For example in the gardening scenarios participants anchored their designs in parts of the gardens the community would accept as food growing areas.
- Utility of outputs: Although the LCA calculator was designed to show the resulting CO^2 emissions reductions, these savings were not very meaningful to the group. Participants tailored designs according to other outputs. For example, when assessing the wormeries options, Mary looked at how much fertiliser could be produced and whether the TRA would be able to sell or exchange this amongst local gardening groups.

After exploring each scenario, we regrouped to discuss each pair's design options, sharing the priorities and assessments that had informed their decisions. After the group had explored all five ideas, participants voted on a single design option to move forward with. Discussing the vote, participants raised other context specific values and knowledge they felt should be factored into the group's selection. Governance was a key concern, particularly how much management any design would require. Another concern was misuse by "uninitiated outsiders". For example waste compacting was seen as potentially dangerous if people didn't know how to use the compactor properly, likewise food sharing was felt to be open to mismanagement. All participants had a first and second vote and rainwater harvesting won the most votes.

The vote gave the research team one idea to turn into a more detailed design. However workshop 2 had also shown limits to the residents' knowledge of unknown systems. Although we worked to address this during the workshop by providing information sheets and responding to questions, the research team wanted to provide hands on experience of a rainwater tank prior to workshop 3. We sought permission to install a smart rainwater tank on a downpipe on the estate and were able to show participants a working system[xxi].

Workshop 3: detailed design

Workshop 3 aimed to get residents' feedback on the prototype and create a detailed design for rainwater harvesting on the estate. The research team created a bespoke rainwater harvesting module for the LCA calculator which let residents explore design details such as tank size, number and location, rooftop area to be used to catch rain, position of outflows and whether or not to pressurise and pump water. Seven residents joined for the third workshop to experiment with the detailed design.

The workshop started with an overview of rainwater harvesting covering technical and operational

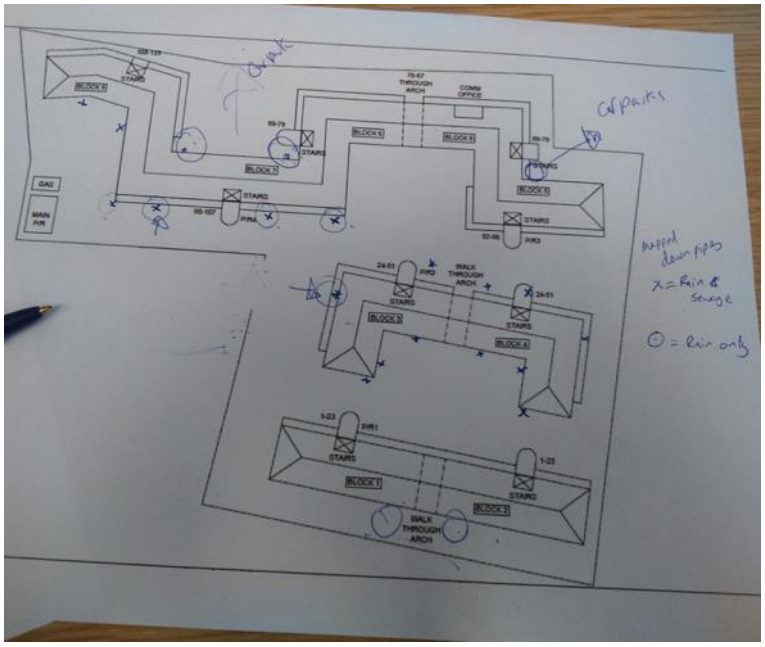

Figure 4: mapping rainwater infrastructure for detailed design

details as well as its role within the broader picture of London's water governance and infrastructure. We then split participants into groups and walked round the estate mapping existing drainage infrastructure and potential uses for stored rainwater. Figure 4 shows one of the maps created by the participants. The residents have marked the downpipes that are free from household wastewater and identified points where water could be used. The walkaround was an opportunity for residents to fully engage with the socio-material context of their estate and how a rainwater harvesting system might be integrated into this context. For example we discussed who would use the water. Participants felt it would be useful for the shared gardens, residents' own gardens, for cleaners to clean common areas, and for residents to wash their cars. We discussed tank positioning. Upper walkways meant there could be a pressurised supply without the need for a pump, but raised questions about how the pipework would look. Participants also discussed access and safety concerns. All these details and were then used by the participants to come up with detailed designs. They worked in pairs using the LCA calculator to gauge different technical modifications. We regrouped and reviewed the designs, discussing additional factors such as implementation and maintenance. Workshop 3 ended with a reflection on the project overall and an evaluation survey.

REFLECTIONS AND EVALUATIONS

The objective for the Engineering Comes Home project was to pilot the co-design process. Therefore, we invited evaluation and feedback from the participants, but also had an on-going process of evaluation and reflection amongst the team.

Participant evaluation

Participants were encouraged to provide feedback on the process. This was managed through formal mechanisms such as seeking group consensus on next steps, but informal feedback was also captured. For example Justin commented at the end of the first workshop "*Nice to see so many people interested. I want to make the estate better and I'm pleased to see that there are other people here interested too*". This helped us gauge motivations for participation that we formally tested with an evaluation

questionnaire at the end of workshop three. The nine questionnaires we received were overwhelmingly positive, but did show some variation. Seven of the nine strongly agreed with the statement that 'the ideas came mostly from the community', but only four strongly agreed with the statement that 'I've helped influence the outcome of the project'. This may indicate people supported other ideas that did not get selected. It may also be a result of our inclusive process for participation as we allowed new residents in at every stage. This meant some people participated at later stages who'd not helped establish the value-based criteria or of assess the range of alternative ideas. The free comments provide further insights. Four respondents cited 'coming together as a community' as a benefit of the project and two stated they had learnt through the project.

Research team evaluation

The team's reflections were captured through observational notes on the workshops and written pieces on the process. Four themes are clear.

Technology literacy

Participants having little prior knowledge of the shortlisted technology options was an important learning outcome. We struggled over the question of how much to "educate" participants. An engineer in the team commented "*what's the balance between participants coming up with ideas and being educated with alternative ideas, at a co-design workshop?"* We needed to gauge how far to challenge participants' assumptions about existing or potential systems, aware that we would then shape the outcome of the process. We also found it hard for people to engage deeply in the design of an object or a system as an abstract concept. However by the third workshop we had a working prototype for people to use and the team felt that by the end of the workshop we had managed to raise levels of technical literacy about urban drainage and water management.

Design thinking

Throughout the workshops the participants tended to focus on established design solutions and the practicalities of implementing these within their estate. As one of the design team said '*there was a definite jumping in with pre-formed solutions'* which limited the 'problem space', the process of generating new questions based on personal experiences and values. We felt that overall the process was closer to user-led design than co-design. In other words we had successfully led participants through the 'process of describing and solving problems for themselves' [xxii] but had not managed to get to the stage where the participants were helping the designers to understand a problem / solution they'd identified through their own experience.

Participation

Our recruitment strategy and decision to allow newcomers at every stage of the project meant 15% of the estate's households were involved in at least one activity. Our approach meant that we had some difficulties with continuity; previously dismissed ideas were revisited by people who'd not been part of the initial screening steps for example. Nonetheless, as the Principal Investigator pointed out '*we managed to have enough participants throughout to test the methods and to get some meaningful data for research. It would have been better to have a more consistent cohort and even more people participating, but it is impressive that people have been willing and interested to engage so far.'* Our approach also meant we were able to engage with people motivated by very diverse reasons, including those interested in improving their local environmental quality as well as those more interested in community building activities.

Institutional context

The institutional context also shaped the process. We worked with the estate's governing body (Leathermarket JMB) and the TRA. Both were supportive and helped us recruit participants. The management board adopted a hands-off approach, by contrast the TRA had more at stake and therefore took more control of the process, steering it to align with existing initiatives or previous agreements within the community. The PI reflected that '*this has placed some constraints on the 'design thinking', closing down options early in the ideation process'*. The social researcher also reflected that later workshops '*felt like TRA meetings'* meaning those used to this governance structure were more vocal in expressing their opinions and proposals, while participants who weren't TRA regulars were less vocal. Nonetheless the surveys from participants showed people found it easy to contribute to the discussions. And, as the PI pointed out, working within an institutional context is '*an important part of the design lifecycle, [and involves] understanding local capabilities and constraints. In adapting the process in the future to enable deeper engagement in the co-design process we might think about how we can capture this more productively, to acknowledge local context, knowledge and risks, whilst still keeping design possibilities open.'*

CONCLUSION

Engineering Comes Home demonstrated that residents were willing and able to play a meaningful role in the design of neighbourhood scale infrastructure. We started the co-design workshops completely open to any form of WEF nexus intervention and ended with a rainwater tank providing water for the TRA's flower beds. This specific design solution evolved from the participants' values of managing waste and pioneering water stewardship.

The co-design process was iterative and responsive to the context. Through it we have found

- A willingness to engage in the co-design process
- That people are motivated by the idea of saving WEF resources beyond rational choice models
- We could generate a set of shared values to create a design brief
- It was possible to build technical literacy amongst participants

The pilot has allowed us to test the process and create a set of co-design method statements that are freely available for others to build on[xxiii]. This first case-study provides an encouraging example of how residents can be included in the technical work of creating less resource intense, more liveable cities.

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SIGNS OF A CITY: SEMIOTIC MARKERS AT ODDS WITH CONSTRUCTED NARRATIVES IN BELFAST

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INTRODUCTION

The past twenty years has been a difficult transitional time for Belfast and those who would envision a robust economic future for a city scarred by events of the Troubles, a period roughly from 1969 to 1994. Currently new construction in the city's centre has reached, along with the number of cranes in the Belfast skyline, *(Fig.1)* unprecedented levels. On social media planners, architects and heritage bodies report daily on ongoing development.[i] The former are concerned with building and regeneration, the latter with the disappearing architecture of a city with no desire to remember the past through associations bound up in an enduring built environment.[ii] Historical structures that withstood bombings during the conflict are being systematically destroyed.[iii] A once Georgian, then Victorian city centre is being slowly eradicated, with very few buildings in the former style remaining and ever-declining numbers of latter. Where Victorian buildings are allowed to remain 'Facadism' has seen them gutted, with only an exterior remaining as a reference to what was once there.[iv]

The city has become an architectural composite, with postmodern development reaching a saturation point and the city's identity, through eradication of tangible and visible structural evidence of its industrial provenance, under threat. This reimaging, borrowing from the architecture of 'other cities' is creating a situation where 'we are currently in danger of reifying our regional city as a retail-focused abstraction of place at the expense of the communities and the people'.[v] Despite ongoing attempts to rebuild the city as a neutral place, a narrative of truth, of the divisiveness underpinning Belfast culture, refuses to be buried in the rubble. 'Belfast was, and still is for many, a place synonymous with violence'.[vi]

This paper examines the reimaging of Belfast for the 21st century as a gentrified reconstructed place aiming to entice tourists and to bolster the economy, through an overarching theme of safety, neutrality, and 'culture'. The city's troubled past is being concealed behind new development and shifting narratives that pose a threat to authenticity. In contrast, once the city's main streets have been departed, in communities located on arterial routes to the North, South, East and West of the city's core, a different image of place is apparent. The paper examines the contrasting urban environments of Belfast city centre and arterial routes, to demonstrate stark bi-polar narratives of place. A supporting photographic archive shows living places and spaces of the city's communities with a less appealing image of place where still prevalent ideologies and societal divisions, are often expressed on an isolated semiotic landscape imbued with meaning.

Figure 1 Some of the many cranes in the Belfast skyline

A new narrative for Belfast

Since 1998's Belfast Agreement, the rebuilding of Belfast has relied on an agenda of 'forgetting' the past, achieving this through planning, architecture and the replacement of history with heritage[vii]. The Belfast story, recreates, or creates, the 'best bits' for public consumption while 'hiding out of sight' less palatable truths. Although the geographic map of Belfast has been redrawn since the 1960s, the city's citizens retain a cognitive map in memory. The enormity of past experiences cannot be easily erased. A highly visible city, Belfast was established circa 1600 in the Lagan basin, framed by mountains[viii], hence a long history endures as a challenge to any fresh manufacturing of place. 'Every citizen has had long associations with some part of his city, and his image is soaked in memory and meanings'.[ix]

Belfast now emulates other great cities, Paris, New York, or London, having created 'identifiable quarters to which artists and cultural entrepreneurs are attracted'.[x] While generally such places emerge, or are established over time, in Belfast they have been manufactured as part of the future vision for the city, while lending some suggestion of historical provenance. The recent Cultural Quarter phenomena in Belfast is part of a global trend whereby 'they have been (and are being) used as a deliberate model for urban regeneration of declining inner urban areas… adopted as policy mechanisms for urban regeneration'.[xi] In defiance that the term itself implies a restriction on number, they include the Cathedral Quarter, Titanic Quarter, Queens Quarter, Linen Quarter, Market Quarter, Smithfield and Union Quarter and Gaeltacht Quarter.

With the new vision for Belfast having, up until now, relied heavily on arts and culture, there is no small irony that a lack of desire to retain historical architecture now threatens to eradicate much of the city's culturally led Cathedral Quarter.[xii] In Belfast city centre there are no outwards expressions of culture, no flags, political murals, painted curbstones or references to tribalism. Postmodern shops, restaurants, cafes and indoor 'disneyfied'[xiii] shopping spaces, offer the chance to worship consumerism. City living, so long absent from Belfast, is returning slowly, but not in the once bomb

damaged main streets, or Royal Avenue, where upper stories of buildings remain empty. This is a long-term result of initiatives at the height of the Troubles which saw an inner-city population forcibly migrated to 'growth centres', manufactured towns on the periphery of the city, complete with out-of-town shopping facilities.

Contemporary city living in Belfast concentrates on high-rise developments located in freshly manufactured tourist hubs. In the city's Titanic Quarter, exclusive apartments offer walkable proximity to the city centre via recently constructed pedestrian bridges. The high cost of tenure in this area ensures gentrification, excluding working class inhabitants. The apartments, overlooking Belfast Lough and harbour have been built to underpin a carefully established theme at the core of the new Belfast narrative. Here, 'consumption and lifestyle patterns…bestow distinctive place identities'[xiv] on a place, once the site of shipyard toil, now with a more glamorous past posthumously fitted. In what has been a highly effective marketing campaign, Titanic Quarter has been branded with sanitised historical narratives to appeal to visitors and those who can afford to live there. If, as 'space becomes place as we endow it with value',[xv] the value endowed here is a lifestyle equated with a desirable address and perceived class differential.[xvi] Titanic Belfast[xvii], a visitor centre and museum, shadows the new development, alongside various shipbuilding-related paraphernalia.

The new Belfast narrative is that of a city with a proud history, an international tourist destination, where, at least in its centre, no evidence of the 'troubles' may be seen.[xviii] The Belfast story invokes 'normalization strategies employed after conflict seek to reshape cognitive understandings of violent spaces through reconstruction'.[xix] Yet the retention of memory, through generations of people living in the city's communities, retains the 'potential to disrupt these efforts'.[xx]

Non-conforming places

The built environment of the reimagined city centre stands in striking contrast to many 'other parts of the city where the conflict and memories of it are omnipresent; alive in the burgeoning memorial landscape'.[xxi] In the city's housing estates, located on arterial routes to the North, South, East and West of the city, in the vicinity of the Antrim Road, Falls Road, Newtownards Road and Ormeau Roads, newly crafted narratives don't apply. In these estates the city's past is retained through the perpetuation of cultural norms and hegemonies, by older and emerging generations, the latter often too young to remember the 'Troubles'.

New roads infrastructure ensures isolation of communities on these routes, once key access roads to the city centre. The tourist would seldom see these places unless electing to undertake one of the increasingly popular tours of the city's troubled places.[xxii] The Belfast where the people of the city live is not included on tourist maps and is difficult to access for the pedestrian on foot. These roads, which once boasted continued commercial activity and were 'walkable' to the city centre, are now isolated, fractured by physical firebreaks created by motorway over and underpasses. *(Fig.2)*

This isolation is further emphasized by large interface areas, framed by vast swathes of unused and unusable land, acting as contemporary moats[xxiii], to separate housing estates belonging to one or the other of the city's core Nationalist (Catholic) or Unionist (Protestant) communities. According to the Northern Ireland Housing Executive, over 90% of social housing areas are still segregated into single identity communities.[xxiv] Attempts, through housing creation, on unused land in interface areas, in order to encourage integrated living, have largely failed.[xxv] *(Fig.3)* These new developments are becoming home to the city's migrant population, for whom settlement within established estates often comes at the price of harassment and intimidation.[xxvi] This sense of 'if you are not from a place you should not be in that place', is still enforced by local paramilitary organisations from 'either side', who, in the words of Gerry Adams, even now, 'haven't gone away you know'.[xxvii]

On arterial routes people live in housing estates with shared surface courts and limited vehicle access. Designed in accordance with security dictates these visually uninviting and philosophically excluding places provide functional housing, often with little or no green spaces. Since the 1980s social housing solutions have been centred on two storey red brick houses 'served by "shared surface" courts'[xxviii] with an emphasis on 'defensible space'[xxix] and limited vehicle access – further isolating communities in accordance with security concerns. *(Fig.4)* In Northern Ireland, 'since the mid 1970s all major development projects had to be previewed and approved by the British Army'.[xxx] Additional security sees closed-circuit surveillance cameras throughout community spaces.

Figure 2 The city's Westlink, joining the North and West of the City, dividing communities either side

Figure 3 Wasteland and blighted space caused through the creation of major roads, which act as additional interfaces reinforcing societal segregation, seen here on Belfast's Crumlin Road

Figure 4 Bollards preventing vehicle access to the rear of walled courtyards, Cupar Way, West Belfast

Throughout housing areas various devices, from small walls, to bollards block wider urban pathways and metal fencing in various forms and heights ensures the 'uncongenial-sounding urban framework'.[xxxi] Currently planning legislation requires that 10% of any housing site should be provided as 'amenity space'.[xxxii] However, the legislation doesn't define how the space is used, leading to often unsatisfactory results. Space that could be used for green areas is often paved, with places for bins, or washing to be hung out, although, on the estates, these areas frequently remain unused, as to leave bins or washing out would be an invitation for thieves.

There is clearly a correlation between green space and lower levels of crime, in stark contrast to dense housing in areas of high social depravation. Many of these tightly packed terraced houses have rear communal parking areas without surveillance or streetlights where vehicles are often damaged or destroyed. Entrances to flats are often located to the rear of properties without adequate security lighting and they have become places where swift entrance and exit by tenants is the norm. Similarly, the sometimes-squalid state of these communal hallways presents a disturbing, unsafe, inhuman void before the safety of the home beyond. In contrast, more recent multiple dwelling buildings have street facing hallways with large windows and all-night lighting as some assurance of personal safety.

Many estates are almost entirely deserted during the hours of darkness, punctuated occasionally by crowds of youths gathering in the streets at night, they are often perceived to be inebriated, on drugs, or causing trouble.

In the run up to the tribalism of the Orange Order celebrations annual 12th July, in loyalist estates, a greater than usual number of flags are being flown on property, on rooftops, draping windows, in window sills or gardens, on lamp-posts or any other available public facing space. *(Fig.5)* Interestingly, there seems to be a correlation between flag size and statement of loyalism manifested in the bigger the flag the more 'loyal' or, 'connected' the owner is perceived to be, with huge flags sending a message to neighbours that the family is to be 'respected'. In these areas flags must be flown, as to

'disobey' the unwritten rule often results in damage to property by vandals who require residents to show their loyalty by displaying a flag.

Figure 5 Flags on Crumlin Road Estate

The vigilante nature of these estates allows for graffiti and slogans *(Fig.6)* spray-painted on walls and those causing 'unauthorised' trouble for residents are given warnings by local paramilitaries, before being 'put out' of the estate. This is a world of hushed conversations, vigilante law, illegal protection rackets, and paramilitary rule in an environment where visible loyalism acts as the veneer to wider social, political, and economic problems.

Figure 6 Graffiti on wall beside the city's Westlink road in North Belfast

Even recently built housing, perhaps not obviously from a distance but on closer inspection, reflects the need for security measures to prevent against missiles or other threats to the persons within. This is particularly evident in interface areas, where homes often have metal facades or roofs; and on those directly bordered by Peace Walls defensive building measures are often extreme. *(Fig.7)* Contemporary news stories of petrol bombs and harassment of people in their homes underpin the continued need for fortified housing.[xxxiii]

Figure 7 Defensive architecture on homes beside the Bryson Street peace wall, East Belfast

Semiotic landscape of division

The isolation of the routes extends beyond the physical, in the sense of buildings, homes, living, or dwelling places[xxxiv], places of work and places to shop, to economic isolation. The robust economy of the city centre stops at the edges of the core city. There may be no physical walls to designate these edges, as there once would have been, but cognitive walls remain for those in living memory of outbreaks of trouble.[xxxv] As an example of how 'walls can be used to control urban populations',[xxxvi] the walls are concentrated on defensible spaces surrounding and within the series of villages[xxxvii] circumventing the city. An enduring phenomenon since the 1960s, the walls do have historical provenance, with boundaries being marked between Protestant and Catholic areas of the city 'in every decade between the 1870s and 1930s.[xxxviii] The walls, 'have been erected by the antagonistic communities themselves, but the desire to maintain and strengthen them comes from both communities'[xxxix].

Peace walls have grown in size and number since 1998, ranging in length from a few hundred metres to over 5 km (3 miles) and up to 7.6 metres (25 ft) in height. A proposal for their removal by 2023[xl] has been met with both skepticism and objection, with the majority likely to remain in place beyond that date. Meanwhile, 'new data shows 21 structures not included in that target'.[xli] Even if walls belonging to the Northern Ireland Housing Executive and Department of Justice were to be removed (the key actors in the proposal) there would still be 21 structures outstanding.[xlii] Although, the exact

number of interface barriers is subject to differing views due to approaches to counting and categorising barriers.[xliii] *(Fig. 8)*

Figure 8 The first peace wall at Cupar Way, West Belfast, extends for hundreds of feet

A 2011 report commissioned by the Belfast Interface Project[xliv] revealed 99 different security barriers and forms of defensive architecture in the city.[xlv]. Their online interactive map has an option to view barriers that will remain in place even if all of those structures on the list are removed by 2023.[xlvi] Many of those living in interface areas are concerned for their safety should walls are removed,[xlvii] 'if you're pushing a narrative of peace of reconciliation, walls don't fit…if you're not part of that global conversation, they are an every day part of life.'[xlviii]

The quality of life for people living in Belfast's communities can be evidenced through census data, which demonstrates high unemployment, low expendable income and often-high rates of crime and disorder.[xlix] The built environment of these places visually demonstrates 'a social pattern, a kind of mental layout of the census data'.[l] Ad-hoc shops on arterial routes sell basic goods, groceries and home-wares and are denoted by often-ramshackle commercial signage, located on the front stage setting, or 'mise-en-scene'[li] of main roads. The lettering on signage 'lying in a no-man's-land between architecture and graphic design', provides vital visual cues on the nature of place, as 'words speak while doors and windows remain mute'.[lii] Without signs the low-rise red-orange brick buildings on arterial routes would seldom differ, as the core architecture is a result of the industrial age of the 1800s. This was a boom time for industry leading to the creation of two and three storey houses, now commercial premises, for the factory workers. While shop signs are significant co-creators of the genius-loci, other graphic marks often take visual precedence.

CONCLUSION

In interface areas, where 'personal meaning retains the potential to undermine efforts to induce historical amnesia',[liii] murals, *(Fig.9)* flags and flagging of related messages *(Fig.10)* and graffiti reinforce the territorial nature of place. These outwards expressions of culture contradict the 'new' Belfast narrative. Murals are often intricate, with the time taken to create them evident, the graffiti and tags are more immediate and less artful expressions of culture. The messages are clear, communities are divided, Belfast is not culturally neutral. There is a sense of danger in these places and an inherent message that strangers are unwelcome. The walls and blighted spaces are isolated, often far from street lighting or eyes on the street.[liv] The rebranding of Belfast stops at the edge of the city's core, beyond which there is no reimaging, beyond which the true nature of the divided city is evident with every turn down a side street. Should the uninviting built environment itself not convey that unwanted guests, tourists, or those from the 'other' side are unwelcome, the graphic marks, as co-creators of the built environment, the words, signs and symbols of division, will. Through this combination of graphic elements an honest image of place and sense of the 'real' Belfast, of the lives of those living in its communities and their enduring hegemonies and ideologies, emerges.

Figure 9 Paramilitary mural Newtownards Road

Figure 10 Flagging on lamp-post off Falls Road, West Belfast

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[i] "Belfast Crane Count" Gary Potter, accessed 10/05/17 https://www.scribblemaps.com/maps/view/Belfast_Crane_Count/Lmgu_NaQzG. While the figure varies almost from day-to-day, the Twitter site @futurebelfast, an online resource established by @BelfastGary in 2006 'to independently document Belfast's changing built environment' provides an interactive map tracking cranes in the city. Clicking on each of the currently cranes reveals its location and a photograph of the area. A further link gives planning details, from proposal through to suggested completion date, to include details of the architect, developer, contractor and artist's impression of the finished project.

[ii] Robert Bevan, *The Destruction Of Memory: Architecture At War*, (London: Reaktion, 2006) 8. Bevan refers to the destruction of architecture associated with memories, in association with conflict, as 'the active and often systematic destruction of particular building types or architectural traditions…where the erasure of the memories, history and identity attached to architecture and place – enforced forgetting–is the goal itself'.

[iiiiii] "Outrage over demolition of old buildings in city centre", Belfast Telegraph, accessed 4/02/17, http://www.belfasttelegraph.co.uk/news/northern-ireland/outrage-over-demolition-of-old-buildings-in-city-centre-35263810.html. In one of the many news articles concerned with the destruction of the traditional built environment, the Ulster Architectural Heritage Society UAHS (uahs.org.uk) declared, 'we are unnecessarily losing historic buildings in Belfast which any other city or jurisdiction would give priority to preserve, in a city that has ample vacant development land'. The Belfast Telegraph commented, as far back as 2009, that, 'the buildings the terrorists didn't manage to destroy are eventually demolished by the property developers. "Building That Symbolises A City", accessed 20/04/17 http://www.newsletter.co.uk/news/building-that-symbolises-a-city-1-1888965

[iv] "Swanston's Warehouse", Ulster Architectural Heritage Society, accessed 6/04/17 http://www.uahs.org.uk/campaigns/current-campaigns/swanstons-warehouse/ The work of celebrated Belfast architectural firm Young and Mackenzie, Swanston's Warehouse was internally demolished in 2017, despite objections from the UAHS, who declared the building as an "historic asset which strongly contributes to the architectural character and historic context of the Belfast City Centre Conservation Area in which it is located".

[v] *Impact of the conflict on public space and architecture, A Troubles Archive Essay From the collection of the Arts Council of Northern Ireland*, Ciaran Mackel, accessed 10/04/17, http://www.troublesarchive.com/resources/impact_of_the_conflict_public_space.pdf

[vi] Catherine Switzer and Sara Mcdowell, *Redrawing Cognitive Maps Of Conflict: Lost spaces and forgetting in the centre of Belfast.* Memory Studies 2009 2: 337, accessed 15/04/17, http://mss.sagepub.com/content/2/3/337

[vii] David Brett, *The construction of heritage*, (Cork University Press, Cork. 1996) 1–4.
The basic tenet of Brett's 'The Construction of Heritage' whereby 'popular histories' are recreated, through 'places, buildings and institutions' as a 'representation of the past', with 'deliberate connotations' and associated 'ideological implications' of such imagery. The author asserts that, in Northern Ireland in general, 'the idea of "cultural traditions" is used in a very loose way to defuse issues of political legitimacy'.

[viii] "Back Then: Belfast Inspired the Tall Tale of Gulliver's Travels", Belfast Telegraph, accessed 1/05/17 http://www.belfasttelegraph.co.uk/archive/places/back-then-belfast-inspired-the-tall-tale-of-gullivers-travels-30977711.html One such mountain, known as the Cave Hill, is widely purported to have been the inspiration for Jonathan Swift's Gulliver's Travels.

[ix] Kevin Lynch, *The Image Of The City.* (M.I.T. Press, Cambridge Mass.; London, 1973), 1.

[x] John Montgomery*, Cultural Quarters as Mechanisms for Urban Regeneration. Part 1: Conceptualising Cultural Quarters', Planning Practice & Research,* 18:4, 293-306, (2003): 293 accessed 24/05/17, http://rsa.tandfonline.com/doi/pdf/10.1080/1561426042000215614

[xi] Ibid.; 293

[xii] "Call to 'develop not demolish' iconic Cathedral Quarter", ITV News, accessed 24/05/17, http://www.itv.com/news/utv/2017-04-01/call-to-develop-not-demolish-iconic-cathedral-quarter/ ITV News reported on the online campaign by local agitators, planners and heritage bodies, calling for plans to be amended with a view to developing, not demolishing the Cathedral Quarter.

[xiii] Hakan Erterp *"Chaos Or Homogenization? The Role Of Shop Signs In Transforming Urban Fabric In Beyoğlu, Istanbul".* Visual Communication (2009): 269, accessed 11/02/16, http://vcj.sagepub.com/content/8/3/263. Ertep explains disneyfication as 'a neologism taken from the name of the Walt Disney company to describe what some see as the way in which the principles of Disney theme parks are spreading throughout our societies'.

[xiv] William, J.V. Neill, *Urban Planning and Cultural Inclusion. Lessons from Belfast and Berlin.,* (Palgrave, Basingstoke, Hampshire, 2001): 6.

[xv] Yi-fu Tuan, *Space and place: The perspective of experience.* (London: Edward Arnold, 1977): 6.

[xvi] Judith Williamson, *Decoding advertisements*, (Marion Boyars, London 1978): 13. Williamson discusses how people can be made to 'feel that we can rise or fall in society through what we are able to buy and this obscures the actual class basis which still underlies social position'.

[xvii] Concept architects Eric Kuhn and Associates, 2012, with Todd Architects as lead consultants. The building's design is intended to reflect Belfast's history of shipmaking and the industrial legacy bequeathed by Harland & Wolff. Its angular form recalls the shape of ships' prows, with its main prow is angled down the middle of the *Titanic* and *Olympic* slipways towards the River Lagan. The construction of the building cost £77 million with an additional £24 million spent on pre-planning and public realm enhancements.

[xviii] Catherine Switzer and Sara McDowell, "Redrawing cognitive maps of conflict: Lost spaces and forgetting in the centre of Belfast", in Memory Studies 2 (2009): 337, accessed 21/03/16. http://mss.sagepub.com/content/2/3/337
The authors assert that during 'three decades of conflict. Belfast, its largest city, experienced some of the worst levels of violence… (becoming) a highly segregated city in which its citizens understandings of the urban fabric were mediated through their ethno-religious backgrounds'. They add that in a new post-conflict society, physical changes to the built environment of the city have seen 'an effort to remove evidence of the conflict from the 'new' city centre, despite more than 70 conflict-related deaths occurring there'.

[xix] ibid.; 337

[xx] ibid.; 337

[xxi] Ibid.; 337

[xxii] R.C. Murray, *Belfast: The Killing Fields,* in Fred.W. Boal and Stephen A. Royle (eds), *Enduring City: Belfast in the Twentieth Century*, (Belfast: Blackstaff, 2006) 225–9. For example, a total of 1527 deaths in Belfast between 1969 and 1999, 362 occurred in north Belfast and 440 in the Falls area to the west of the city centre.

[xxiii] An appropriate analogy if we consider the definition of 'moat' (French word 'mote', meaning 'mound') to be 'a deep, wide ditch surrounding a castle, fort, or town, typically filled with water and intended as a defence against attack', accessed 03/05/17 https://en.oxforddictionaries.com/definition/moat.

In Belfast, often water, in the form of Belfast Lough, or inner city rivers, is used as a geographical device to separate physical spaces belonging to the Unionist, Protestant, or Nationalist, Catholic, residents of the city. Roads too have been constructed for this purpose, particularly motorways, or the city's high-speed 'Westlink". The construction of these roads has ensured that vast vacant urban areas, once the location of houses, create defensible spaces on the approach to interfaces.

[xxiv] Housing Executive, accessed 07/05/17 http://www.nihe.gov.uk/index/community/community_cohesion/bric.htm

[xxv] "Call to tackle Northern Ireland segregation with mixed housing estates", Belfast Telegraph, accessed 07/05/17, http://www.belfasttelegraph.co.uk/news/call-to-tackle-northern-ireland-segregation-with-mixed-housing-estates-28538497.html

[xxvi] "Refugee Sudanese family forced from Belfast home after racist attack", Belfast Telegraph, accessed 15/05/17. http://www.belfasttelegraph.co.uk/news/northern-ireland/refugee-sudanese-family-forced-from-belfast-home-after-racist-attack-35672718.html

[xxvii] "Adams warns ministers IRA has not gone away", Independent, accessed 15/05/17 http://www.independent.co.uk/news/ira-has-not-gone-away-adams-warns-ministers-ira-has-not-gone-away-1596152.html

[xxviii] Fredrick .W. Boal, *Shaping a city: Belfast in the late twentieth century*, (Queen's University of Belfast, Institute of Irish Studies for the Northern Ireland Housing Executive, Belfast, 1995): 151.

[xxix] Malachy McEldowney, Ken Sterrett and Frank Gaffikin, *Architectural Ambivalence: the Built Environment and Cultural Identity in Belfast*, in *Urban planning and cultural inclusion*, William, J.V. Neill and H. Schedler, eds. (Basingstoke, Hampshire: Palgrave, Macmillan, 2001): 105.

[xxx] Martin Pawley, *Terminal Architecture*. (London: Reaktion, 1998): 152. Recently declassified documents from the 1970s and 1980s show that the security agencies in Northern Ireland played a key role in shaping planning in Belfast by bypassing traditional pre-requisites in order to spatially isolate and contain the city's communities. The legacy of these measures remains today.

[xxxi] Ibid.;152

[xxxii] Forum For Alternative Belfast, *Happy to Live Here 2.* (Belfast: PLACE, 2012):11. .

[xxxiii] "Couple loses everything after petrol bomb attack guts home", ITV News, accessed 02/06/17, http://www.itv.com/news/utv/2017-05-15/couple-loses-everything-after-petrol-bomb-attack-guts-home/

[xxxiv] Martin Heidegger,& David Farrell Krell, *Basic writings from 'Being and time' (1927) to 'The task of thinking' (1964)*, (Routledge and Kegan Paul, London etc. 1978; 1977). Text in reference to Heidegger's explanation that we build in order to dwell, yet not all buildings are dwelling places, for example places of work, whereby we 'work here and dwell there'.

[xxxv] P.D. Smith, *City: A Guidebook for the Urban Age* (Bloomsbury UK. Kindle Edition, 2012): Locations 1237-1238. Smith writes that 'the first city dwellers felt the presence of their defensive wall even when they could not see it. It became a wall in the mind'.

[xxxvi] Ibid.; location 1242. Smith also discusses how walls have historically manifested unrest: 'Within its protective embrace people gained a new sense of security and self-confidence. But by cutting its citizens off from the outside world, walls also created fertile ground in which seeds of suspicion and even paranoia could grow'.

[xxxvii] Malachy McEldowney, Ken Sterrett and Frank Gaffikin, *Architectural Ambivalence: the Built Environment and Cultural Identity in Belfast*, in *Urban planning and cultural inclusion*, William, J.V. Neill and H. Schedler, eds. (Basingstoke, Hampshire: Palgrave, Macmillan, 2001): 104.

[xxxviii] *Robert Bevan,* The Destruction Of Memory: Architecture At War*, (London: Reaktion, 2006): 168.*

[xxxix] ibid,;168

[xl] "Together: Building a United Community – a policy document setting out the power-sharing Executive's approach to building a shared society in Northern Ireland", Office of the First Minister and Deputy First Minister: accessed 24/05/17, http://www.ofmdfmni.gov.uk/together-building-a-united-community. In this document the Executive made a commitment to reduce and remove all peace walls by 2023.

[xli] "Flaws exposed in plans to remove Northern Ireland's peace walls", The Detail, accessed 24/05/17, https://www.thedetail.tv/articles/government-revise-down-interface-removal-target

[xlii] The outstanding walls (from the latest count) are controlled by organisations including Belfast City Council (2), Invest NI (2), Belfast HSC Trust (1), The Department for Infrastructure/DRD (3), private (5) and unknown owners (8).That there are privately owned walls and unknown owners, would seem to undermine official plans for removal, suggesting some possibility of resurgence through the work of independent stakeholders.

[xliii] "Flaws exposed in plans to remove Northern Ireland's peace walls", The Detail, accessed 24/05/17, https://www.thedetail.tv/articles/government-revise-down-interface-removal-target

[xliv] http://www.belfastinterfaceproject.org/. Belfast Interface Project, accessed 26/05/17
[xlv] http://www.belfastinterfaceproject.org/interfaces-map-and-database-overview Belfast Interface Project, accessed. 26/05/17
[xlvi] https://www.thedetail.tv/articles/government-revise-down-interface-removal-target Accessed 26/05/17
[xlvii] "Attitudes to Peace Walls", A report conducted by the University of Ulster, accessed 19/10/15, http://www.ark.ac.uk/peacewalls2012/peacewalls2012.pdf. The report revealed that 69% of residents living at the walls maintain that the peace walls are still necessary because of the potential for violence.
[xlviii] "Why Northern Ireland's 'Peace Walls' Show No Signs Of Following Berlin's Example", Huffington Post, accessed 20/10/14, http://www.huffingtonpost.co.uk/2014/11/03/peace-walls-northern-ireland_n_6093634.html.
[xlix] http://www.ninis2.nisra.gov.uk/public/InteractiveMapTheme.aspx?themeNumber=136, accessed 26/05/17
[l] Donald Appleyard, *Why Buildings Are Known: A Predictive Tool for Architects and Planners.* Environment and Behavior, December 1969; vol. 1, 2: 132, accessed 18/10/15, http://eab.sagepub.com/content/1/2/131.
[li] Jock Kinneir, *Words and buildings: the art and practice of public lettering*, (Architectural Press, London,1980):73.
[lii] Ibid.;8
[liii] Catherine Switzer and Sara McDowell, *Redrawing Cognitive Maps Of Conflict: Lost spaces and forgetting in the centre of Belfast.* Memory Studies 2009 2: 348, accessed 15/04/17, http://mss.sagepub.com/content/2/3/337
[liv] Jane Jacobs, *The Death And Life Of Great American Cities,* □□□□□(Vintage Books Edition edn, Random House, Inc., New York, 1992): 42.

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THE GIANT DOLLS' HOUSE PROJECT

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INTRODUCTION:

The Giant Dolls'house project is an ongoing collaborative arts project that engages local communities and has raised money for the Housing and Homelessness Charity Shelter.
The goal of the project is to make people aware of the importance of a home and community for all. It shows that all people are similarly idiosyncratic. The project can also be read as a crude illustration of how communities could grow.
The Giant Dolls'house project works as follows: Each participant (anyone: children, parents, grandparents and students) in the project is asked to make an individual dolls'house room of any function in an empty shoebox. The boxes are assembled onto a black canvas and linked with ramps, ropes and ladders to create a series of connected spaces that form a community of dolls'houses.

THE DOLLS'HOUSE, IMAGINATION AND MAKING:

The dolls'house and miniature have proven to be an ideal medium to explore ideas about the home, communities and society. The project united three elements: the dolls'house and what it represents; miniature and the imagination; the art of making.

Representation of the Dolls'house:

In Amsterdam in the seventeenth century, a number of women made elaborate dolls'houses. One of the surviving dolls'houses, and arguably the most elaborate one, the dolls'house of Petronella Oortman is displayed in the Rijksmuseum in Amsterdam. [1] Her dolls'house represented ideas about the home that were current in its time. Even though it has been described as a wealthy women's hobby only[2], many of its contents coincided with the cultural production of the time and the dolls'house was visited by traveling scientists and royalty from abroad. [3] The dolls'house of Petronella Oortman, contained around seven hundred objects, which together pictured an ideal household and how it was run. [4] In the dolls'house objects, architecture and furniture are all represented in equal measures, picturing a complete household as a model of its society.
In the nineteenth century the dolls'house became synonymous with the bourgeoisie and the way their self-preservation habits turned them away from society. This image was captured in the play *A Dolls'house*[5] by Henrik Ibsen, first performed in 1879. The Dolls'house in the play is a house, where, removed from the real world and its developments, the hypocritical values of the bourgeois male protagonist rule. Nora, the wife, brought up as a doll in a dolls'house and shielded from any true or real life has to leave her dolls'house, into the real society to become a real person.
In 1972, the artist Miriam Schapiro made with Sherry Brody a dolls'house, as part of *Project Womanhouse* in California.[6] Their dolls'house was placed in a cabinet, not unlike the cabinets of the dolls'houses of the seventeenth-century Netherlands and they used objects to alter the by now tired and what had become the stereotypical 'gendered space' of dolls'houses. A studio displays a female artist painting bananas and a male model. In the third instance the dolls'house and it's interior challenged the established order by offering and imagining a narrative for a new reality in miniature.

Figure 1. Dolls'house Petronella Oortman 1685-1712. Copyright Rijksmuseum Amsterdam.

Miniature, imagination and Make Believe:

Miniaturisation, as it is interiorised in the dolls'house is often explained as a romantic, nostalgic pass time: the resultant of a desire for a past that is no longer there. The writer Jan Willem Duyvendak argues in his book: *The Politics of Home: Belonging and Nostalgia in Europe and the United States,* that nostalgia as part of the imagination. However, he also sees aspiration, norms and dreams located in the imagination.[7] The anthropologist Irene Cieraad observes in her 2010 essay that university students complete the actual home they live in with elements of their imagination.[8] Imagination is, according to the philosopher Gaston Bachelard a vital part of living in the home; an active ingredient that helps people negotiate their daily life. Through imagination only, we can change the world around us. Bachelard writes in his book *The Poetics of Space*: 'The world is my imagination. The cleverer I am at miniaturising the world, the better I am at possessing it.' [9] Miniature could therefore also trigger the imagination in other ways.

Miniature, imagination and Make Believe:

The art of making and building is an important aspect of the Giant Dolls'house Project. In the seventeenth century dolls'houses all objects were made by professional craftsmen and the end product was a testimony to their skill. Miniaturisation of everyday objects was often a requirement for admission to a professional guild. [10]

The writer Richard Sennett sees making as a social activity. In his book *Together: The Rituals, Pleasures and Politics of Cooperation*, he writes:

> *'my hope is that understanding material craftmanship and social cooperation can generate new ideas about how cities might become better made.'* [11]

He continues:

> *'My quest is to relate how people shape personal effort, social relations and the physical environment. I emphasize skill and competency because in my view modern society is de-skilling people in the conduct of everyday life.'* [12]

The Giant Dolls'house Project, as a community arts project, shapes imaginary miniature cities through making. The connecting ladders and ropes and ramps set it apart from purely individual dolls'houses in a shoebox projects. However, the educational value of the latter has been recognised by Audrey Rule.[13] who identified in her analysis of dollhouse story themes and related authentic learning activities six themes: imagination, science fictional changes in space and time, diversity and friendship, courage and independence, creativity, and care of belongings. These themes could provide important social-emotional and intellectual skills for success in today's diverse, challenging world.[14]

INSTALLATIONS:

Since 2014 we have made several dolls'house installations and have therefor assembled over a thousand dolls'house-boxes. And yet, still, each box is different and has a different story to tell. A few of the events will be listed below.

TESTBED01

The first installation was at TESTBED01 in Battersea in 2014. We raised money for Shelter and had around 140 boxes from local school children and from children from North London, Islington. In a workshop, led by Lala Thorpe from Artescape.

Figure 2. Photograph by Karem Ibrahim.

#Transacting

At the Giant Dolls'house installation #Transacting, 11th July 2015, organised by Critical Practice, on the Horse Guard parade in front of the London University of the Arts Chelsea, we explored what would happen if not inhabitation of the boxes is the starting point, but their trade value. Empty shoeboxes were assembled onto the canvas before the market opened. The boxes were undecorated and linked with the ramps and ladders, not unlike a newly built, architect's designed uninhabited housing scheme. The Giant dolls'house didn't expand during the day and no new boxes were added. We speculated there would be a shortage of boxes at the end of the day and almost hoped for heavily decorated boxes and a queue of disappointed buyers.
At the start of the market anyone could 'purchase' a box by donating £1.- to Shelter and decorate it. Participants were then encouraged to sell their box again. If the owner chose not to sell, the box remained as it was. On the day, we found that most adult participants were more than willing to sell their shoebox houses after they had bought them and had added some furniture or wallpaper and no-one wanted more than one box. The only group of participants who did not want to sell their shoebox-house, who in fact wanted to bring their box home after the fair were children who had become attached to their house and had become completely absorbed in the project. The fact that the boxes were pre-assembled, made no difference to them.

Figure 3. Photograph by Karem Ibrahim.

LFA2015

In 2015 the Giant Dolls'house was part of the London Festival of Architecture, as a highlighted event, with an installation at the Headquarters of Shelter. Children from Duncombe primary school made the dolls'houses and Lenny George from Shelter visited the school to explain Shelter's work. The installation was in collaboration with Lala Thorpe from Artescape. For the theme of the festival: 'Work and the development of the city' we wrote:

> *The Giant dolls'house is a work in progress that reflects the way in which communities could grow. It also highlights the need for housing as an integral part of work life. In a post-industrial society, where people can work anywhere, the home though important as a site to get away from the grind of work life, has more and more become intrinsically linked to work and is often the site of work itself. The city after all can be compared to a large home where one can eat, sleep and work. The conglomeration of dolls'house spaces that will grow over the period it is exhibited, therefore embodies the idea of a work in progress and comments on the way individual homes and work spaces are linked to one another to form a larger community.*

Figure 4. Shelter Installation. The office of Alsop Architects made a dinosaur disco and the architect Ana Araujo contributed a study of a loft. Photograph by Karem Ibrahim.

LFA2016

In 2016 the theme of the London festival of architecture was 'Home and Community' and we wrote:

> *The Giant dolls'house is a work in progress that reflects the way in which communities could grow. It highlights the need for people to have a place to call home to be an integral part of a community. The conglomeration of dolls'house spaces is a literal illustration of the idea of community and the role the home plays in it. However, not all participants may choose to make a home: last year one participant made a disco and another a playground. By letting participants free to decide what they want to make, the installation will perhaps become a community with shared gardens, access between homes and a miniature disco, illustrated in a playful manner.*

Diony Kiryos from the Bartlett made a diorama of paper. Pepper from T-SA made a study of saint Jerome for the office and children from Saint Joseph's Primary made dolls'houses and Lenny George came to talk about Shelter again. Many of the children made their boxes at home and one of the mothers, who had helped make her child a dolls'house (bigger than was allowed) confessed:' I always wanted to be an architect.' Boys from Tower House school in Barnes as well as children from the Roche Primary School also made dolls'houses.

Figure 5. One of five Panels in the Maestro Arts Gallery. Photograph Karem Ibrahim.

A number of the boxes came the Red Cross Refugee Destitution Support Centre in Dalston. A collaborator on the project and volunteer at the centre, Cindy Hanegraaf, wrote the following:

> *The Red Cross Refugee Destitution Centre in Dalston, East London, provides support for refugees who are in the process of applying for asylum and those who have been refused but are appealing, as well as those who have been successfully granted asylum but fall between the benefits of asylum-seekers support and finding employment.*
>
> *'Many are homeless or are living in very short-term accommodation. Some spend the night on public transport, some in parks or on the street, some in homeless shelters. '*

She continues

> *'there was a ready source of shoeboxes thanks to a recent donation of new shoes from a retailer. The materials for furnishing the boxes came primarily from the trash left behind from the packaging of the food parcels; red net bags from onions, cardboard boxes from tinned sardines, cellophane and photographs from food packaging. Other material came from the clothing bank and from bags of donated toys and children's art kits. At first, it was mainly the volunteers who made the boxes, sitting at tables where the centre's beneficiaries were reading or chatting or having tea. The questions came slowly; what are you doing, why are you doing this, can I make a suggestion, can I help, can I do one of my own? In most cases the beneficiaries preferred to dictate what would go into a shoebox room, and they had very definite ideas of what a room should have.'*
>
> *A window*
>
> *A key*

A box for clothes

A bed

Figure 6. Dolls'house from the Red Cross Destitution Centre. Photograph Karem Ibrahim.

LFA2017

On June 19th 2017, the third installation for the London Festival of Architecture finished. The installation was in the lobby of JW3 in Finchley. A direct mailing had gone out to supporting architecture offices and more architects participated. The project was redefined according to the new theme of the London Festival of Architecture, just as Venice in Italo Calvino's 1972 book Invisible cities is redefined. We are, in Calvino's words 'simply recounting some of the myriad possible forms a city (or giant dolls'house) can take.[15] For LFA 2017 we wrote.

> *The theme of the London Festival of Architecture this year is 'Memory'. Not only does the dolls'house and the community it generates bring people back to a time when divisions were less prominent (see also Putman), the dolls'house is also a medium to process individual memories. Just sitting together and making things is for many adults a memory they want to pass on to the next generation and a skill that is no longer self-evident in an age of computer games, internet and mobile phones. Thereby the dolls'house can be seen as a repository of personal wishes and memories.*

The model shop of MAKE made a dolls'house with the theme of memory in the city, Homes Miller Architects from Glasgow sent their box by post and SPPARC and Child Graddon Lewis, and Erika Suzuki contributed dolls'houses. Nursery children from Fitzjohns Primary school, children from Swiss Cottage school Chigwell Primary schools and children from Artescape with Lala Thorpe, who collaborated on the project and ran the workshop, all made boxes.

Figure 7. Installation at JW3, at the top the MAKE Dolls'house and the Homes Miller Dolls'house below. Photograph by Will Jennings

Projects with Students:

The image of the ladder scapes the project generates resembles the idealised Mediterranean cities that the Dutch architect Aldo van Eyck used as a *Casbah organise* in his Municipal Orphanage. His student Piet Blom built a series of Casbah Houses in Hengelo. He joined standardised housing units with stairs and ramps in order to evoke a what turned out to be controversial urban[16] The Casbah, however, always remained an aspiration as the Casbah in Hengelo couldn't take into account the complexity of life that the real Mediterranean cities have. Could the often ephemeral Giant Dolls'house project be translated into architecture? By starting with the dolls'house, the students start with the life in the casbah, rather than its organisation. The project of the BA Interior and Spatial Design, Chelsea College of Arts, University of the Arts London was a quick study in getting an idea made and in seeing that idea next to all others mounted onto the canvas.

Figure 8. A Giant Dolls'house was created with the BA Architecture third and fourth year students, University of the arts Bournemouth. The students were encouraged to work in groups of three to explore their own houses as well as the connections between them.

Dubai, AUB

In November 2016, as part of a workshop at the arts department of AUD in Dubai; Art, interior design and animation students made dolls'houses as well as their staff and their children. The architecture students helped assembling the boxes and make the links between the boxes.
After the introductory lecture, the evening before the workshops started, an electrical engineering professor asked if he could make a box: he liked the idea of thinking with his hands and developing ideas through making, as children tend to do in the project. He worked on his box between 4 and 5 pm for three days (see figure 9.). Artists participating in the project used the idea of the dolls'house as a critique on events in their world: A Syrian arts student, Cham Al Malla made a typical Syrian interior, with material from her home town. She covered the interior with a lid with a crack in it and the interior was only visible through this crack. In January 2017, the project was taken to thejamjar gallery in Dubai in the AL Quoz District. Another Syrian artist, Sylvia Karakit, made a shoebox about the situation in her homeland: a miniature Guernica.

Figure.9

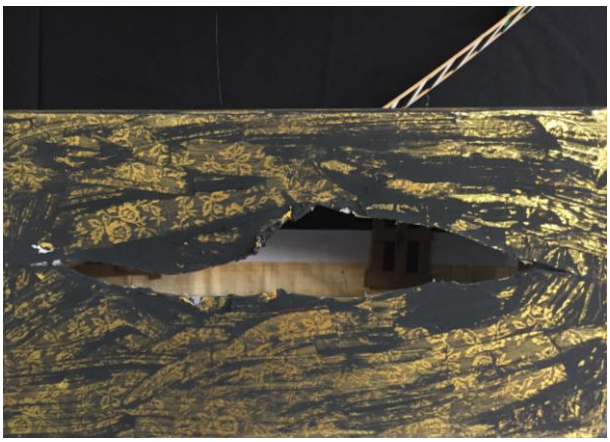

Figure.10 Box by Cham Al Malla.

Figure 11, box by Sylvia Karakit.

CONCLUSION:

The project uses the ideas of miniature, imagination and making to visualise communities of dolls'houses with the dolls'house considered as a medium to imagine and explore individual spaces.
Anyone can participate and Participants are absolutely free to do what they want in the space of their box. There are no prizes for making 'the best' box, and boxes are only excluded if they can't be attached to the canvas.
The giant dolls'house project is not a community participating project in the architectural sense, as we are not working towards a specific project. The giant dolls'house is an end product, a fund- and awareness raiser and discussion piece about issues relating to home, inclusiveness and communities. It doesn't solve anything, unfortunately, but we hope it makes people think. The direction of the project changes per installation and through the people who become involved, but its principle remains the same.

Figure12 . Giant Dolls'house in thejamjardubai, the result of workshops at the AUD, and in the gallery. Photograph thejamjar.

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MAKING A HUMAN-CENTRED CITY – THE TRANSITIONAL SPACE BETWEEN PUBLIC AND PRIVATE AS A PLACE FOR DAILY LIFE AND ENCOUNTER

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INTRODUCTION

Living in the city is a worldwide tendency which means that the percentage of people living in our cities will grow. The public domain and the private home here exist next to each other. Space in front of, or near the house and the facade enter into a close relationship between public and private. This may be a social one, offering a transition from the one to the other condition, as such the space functions as a *transitional space*.

The design of this transitional space and its use is influenced by the socio-cultural background of the inhabitants, by ideas about the public sphere and the socio-economic situation of a neighborhood can play an important role. The desire for privacy grows and influences the design of urban residential architecture as well.

This paper discusses the design and use of this transitional space.[1] Is this space designed and used as a space for daily encounter or as a threshold? What were the main reasons for the design and use of the space and finally: What makes a *transitional space* a space for encounter?

First the Dutch culture of living in the city will be shown with a historical example and the development of the collective residential housing in the first decennia of the twenties century. Then this paper will focus on Dutch cases after WWII. The main question will then be put in an international perspective on the example of a research, done in Kyoto, Japan, which is meant as a starting point for further research. The paper shows a research method which can be used in architectural education.

A human centred city

The topic of this paper – 'Making a human-centred city' – is very much about the everyday life of the residents. It was used as a topic at The Biennale of Architecture and Urbanism in Seoul 2017. The website explains: "But what kind of city do we want? Italo Calvino stated that the true value of a city lies not in monumental buildings, but is 'written in the corners of the streets, the gratings of the windows, the banisters of steps, the antennae of the lightning rods, the pole of the flags, every segment marked in turn with scratches, indentations, scrolls.' Calvino is saying that the truth of the city lies in the everyday. He is asking us to break away from existing concepts of the city in order to build more humane and democratic urban structures. The city is a community always in the process of becoming, formed by anonymity and ready to tell us manifold stories. It is formed by both physical spaces—squares, parks, streets, and even gaps between buildings—and virtual spaces where strangers gather, commune, and part ways." [2] Urban spaces can contribute to a human centred city. Depending on the design they are

understood as threshold from the public domain or space for encounter, as a place to anticipate on the process of the city and its inhabitants and navigate between public and private sphere or not.

The public and the private sphere

The origin of the term 'public' lies in the Latin 'publicus' which means 'for the people'. Today the position of a public space often is not that clear. The Dutch townplanner Jan Heeling differentiates between three forms of public sphere: The 'public domain' as a property which is open for everybody, 'public places' open for everyone through clear accessibility (street, park, plaza), and the collective goal of a public space.[3] In his lecture about Hannah Arendts 'The Human Condition' Hans Teerds emphasizes the connection of the 'public domain' with the human activities of trading and speaking as men in a world of plurality and synchronicity of people. The free exchange between people was essential for Arendt and this can only happen if the public space offers this encounter and exchange in freedom, not in an ordered, restricted and framed system of spaces. Architecture is a mean to create this condition, states Teerds.[4]

The Latin word 'privatus' means withdrawn from the public sphere. The history shows us that the private sphere was a condition which was not common, it had to be gained. Private is used as the opposite of public. 'Privacy' means the sphere in which a person, or a group, can be undisturbed alone. The 'private domain' is the opposite of the 'public domain', the residential house or dwelling is a physical 'private domain'. Here the dweller can be free of any rolls everybody continuously has to play at the podium of public life.[5]

The transitional space

Transitional spaces are located between two conditions.[6] In the built environment a transitional space can be a space between two temperatures, two functions, between outside and inside or between the private and the public. This can be ambiguous, does it belong to the one or the other condition? In this research the transitional space is defined as the area that creates a transition between public and private. This space can be an outdoors or indoors area. It includes the façade of a building, the space in front, and sometimes the inside of the building. The transitional space can be defined as an *intermediary space* between the city, the public and the home.[7] Depending on the design, the façade in the urban context, especially the ground floor and first floor zone and the sidewalk can contribute to the transitional space. This space nowadays is often closed up hermetically when it comes to residential areas, and used commercially, when it comes to shopping streets, but often unclear and unpleasant in mixed function areas in the city. Therefore, it is important to understand how architecture can influence the transitional space positively by designing it consciously.

READING THE CODES OF THE TRANSITIONAL SPACE

While studying the transitional space a very important aspect is the ability to read the *codes*, hidden in the architecture and users attributes that form it. Understanding the codes that form a border is a complex issue as signs and symbols are culturally formed and often used unconsciously. Being a guest in a different culture shows us how difficult it may be to understand the signs that mark a border.[8]

According to Herman Hertzberger, the transition from outside to the inside is a complex addition of experiences that can be invoked by architecture: height, width, depth, light accession, illumination, material, etcetera, here summarized as architectonic means. [9] Simon Unwin describes a study of transitional spaces as a search for the movement from outside to the inside with all its sequences and hierarchies. The anthropologist Amos Rapoport emphases the *behavioural codes*, users bring into the space by adding attributes and appropriate spaces.[10]The Danish architect Jan Gehl did research to understand how an urban public space can be a lively and appropriated space instead of a non-place.[11]

The transition from outside to the inside happens by passing different zones, step by step the resident enters the building, and often the transition continues in the inner of the building until the resident reaches the heart of the building.[12]
We here talk about visual (and haptic) elements, material and space, and we use the visual research method of observation. One very direct way to note the visual information is the hand drawing, another is the photograph. Gehl used the method of observation of public spaces to understand *if* and *how* and *when* a certain space is used. The method is supported by questions. In addition the researcher should do some interviewing with residents, especially in non-familiar environments and cultures, to get a profound understanding of the codes.

Outside:

1. Are there transitions from outside to inside on the level of the direct neighborhood?
2. Is the façade towards the public monolithic or layered?
3. How do you know that you entered a boundary?
4. What kind of and how many transitions are there?
5. Is there a hierarchy in the transitions?
6. Are elements fixed, semi-fixed or dynamic?
7. Are there "*silent distances*", cultural attributes, rules?
8. Are there clearly identified elements for safety and exclusion?
9. Are there spaces in which the borders between outside and inside become ambiguous?

Inside:

1. Is there public space even inside the building?
2. Do you notice a hierarchy from public to private and how do you know? What are the signs?
3. What is the most private room? How do you know that? What are the signs?
4. Are there "*silent distances*", cultural attributes, rules?

Suggested drawings and photographs:

1. Hierarchy from outside to inside by schemes or a fragmental floor plan entrance, section and/ or isometry, material, light, height,…
2. Profile from public to private (street, sidewalk, entrance of the house)
3. Entrance area, section, 3D
4. Sketches of the means that mark a step in the transition

THE DUTCH CULTURE OF LIVING

Until the 18th century the street was one of the key public spaces in the living environment of the Dutch residents in the cities.[13] The transitional space, built up by borders between street and dwelling, consisted of a system of small thresholds people were able to recognize and personalize. The sidewalk was one very clear border between paved street, the entrance door and the hall. The front door was divided into two parts, the lower and the upper door. The upper part was open during the day. The people worked and sold their products on the street or in the hall, which often functioned as a workshop.

At the 'Vissersdijk', Enkhuizen about 1874. Painted by Cornelis Springer (1817-1891)
Source: Laanstra. *Cornelis Springer: geschilderde steden*. Amsterdam: KUNSTWERK/Rokin Art Press 1994,77.

In the late 19th century, most workshops moved to the fabric and the former double high public hall got private. As a result, the basement (which was positioned at the backside of the house) was enlarged towards the front and the former hall transformed to a private living room at the front of the house, but elevated and accessible by outside staircases and a small entrance hall or corridor. These changes created a new border between public and private. Today some streets still show this profound elaboration of the transition spaces in front of the door (the photograph shows the elevated living towards the street and some doors to the basement). Over centuries the Dutch were used to a smooth transition, using the sidewalk as a place to work and social encounter. The elevation of the entrance was a very big change of the Dutch home. With this change of the home to a solely living area and the change of the street towards a street for the transport, the Dutch living culture changed drastically towards a much more private and anonymous way of living. The changes of the public sphere, once created by the citizens themselves, later dominated by the transport system, as well as ideas about living in green parks, or later the movement of participation, definitively influenced the transitional space of urban residential houses.

The transitional zone in Amsterdam, Prinsengracht 337.

During the first half of the 20th century architects were faced with a huge lack of knowledge about collective housing, mono-functionality and mass production of housing. As the Dutch were used to have their own house, the stacking of dwellings to what we call *flats* or *apartments*, the access system and the transition from public to private was a new field to explore. Within only some decennia (1900-1940) all access systems which we nowadays can find in the Netherlands were invented.

The articulation of the entrance had to let the dwellers feel comfortable with this new collective entrance and staircase. Some offered each dwelling an entrance directly towards the street, for the upper floors combined with a collective outside stair, like *The Hague Portico* (see photograph under). The *Amsterdamse School* architects, in the second and third decennia , tried to negotiate between the street and the sidewalk, offering little transitional spaces. According to the functionalists the street was dangerous, living had to be protected from it. They broke with the traditional closed building block and invented the open block and later the slab building as modern architecture., the modern movement brought a turning point of the transitional space, turning its entrance away from the street and introducing a long way from entrance towards the individual dwelling. The photographs are a small selection to show the development of the Dutch residential houses in the first decennia of the 20th century.

1914 – The Hague Portico Copernicuslaan, Den Haag

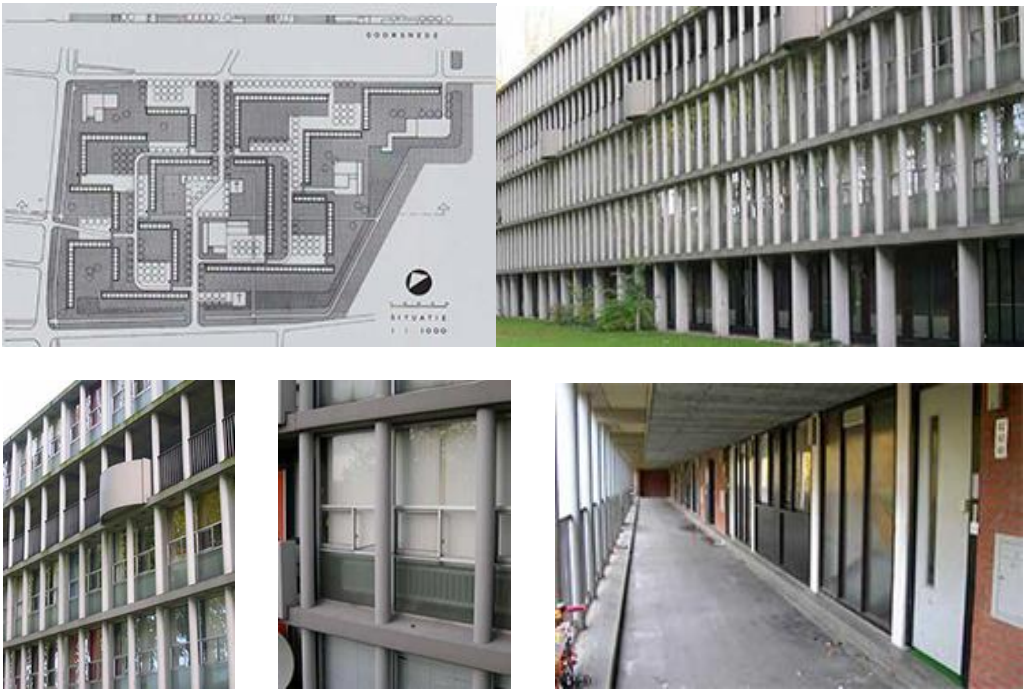
1927 – residential houses Hoofdweg Amsterdam, architect H. Wjdeveld

1934 – Bergpolderflat Rotterdam, architect W. van Tijen

After WWII the basis for the collective residential architecture was laid and as standardization was a big issue, residential architecture was easily reproductive and sober. The soberness of the facades was even suggested as a basic design in the Dutch building legislation which makes the government partly responsible for the flat facades which occurred. Concerning the transitional space the flatness of the facades did not support encounter, however in some projects architects worked with architectural elements to introduce extra space. Depending on how such an architectural element was involved in the design, the message as a sign was totally different. The following cases demonstrate this.

1962-68 - Het Breed in Amsterdam, designed by Frans van Gool

The project is the result of the government, pushing the design of residential houses to its production limits. The slab buildings are arranged in groups of two or three. Access is offered on the ground floor with a setback, and on the 3rd floor with the access balcony which forms a connection to the next building and creates a street in the air. To gain a neutral façade, a layer of pillars is set in front of the windows as a veil. For the architect, living in a beautiful park like neighborhood was the quality of this complex and the mass production was no problem at all (more than a thousand dwellings are produced here). The veil of pillars communicates equality and an anonymous sphere with an architectural element, the pillar, that was well-known since Greek Architecture. The transitional space was hidden behind this screen, the balcony worked as a public street, but the buildings had no contact at all with the public domain, street or the sidewalk. The whole complex was more an enclave.



1962-68 - Het Breed in Amsterdam, designed by Frans van Gool

1978-82 - The Haarlemmer Houttuinen in Amsterdam, designed by Herman Hertzberger

The project is an example of another the turning point, this time to more small scale solutions for the residential buildings in the Netherlands in the 70th. Aldo van Eyck and Team X proclaimed a more human scaled architecture, recognizable and appropriated by the residents. After the war the guidelines of the government were the core of the most developments in mass housing. Openness and green were the key terms, blurring all well-known references of front sides, representation, back sides and private gardens, sidewalks and finally the transitional space.

The façades reflected mass production.[14]This project shows how division of a long slab into recognizable parts, almost similar to the old channel houses in Amsterdam, helps to read the building. All entrances and balconies are situated on the south side, orientated towards a pedestrian street. By introducing the well-known pillar as a focus point for all architectural elements that form the transition space, the pillar is used in a very different way and the result is the clear appearance of space that is free to use.

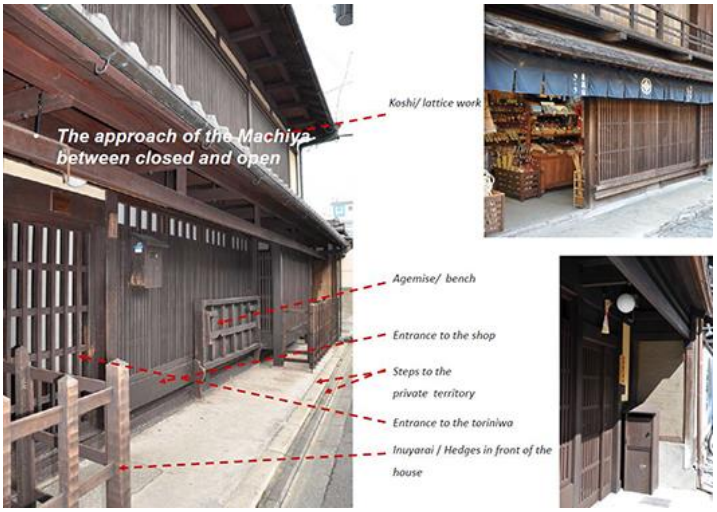
1978-82 - The Haarlemmer Houttuinen in Amsterdam, designed by Herman Hertzberger
The pedestrian street, entrances and balconies are situated behind the pillars.

Architectural and user elements that build up the transitional space in front of the house.

AN EXAMPLES FROM A DIFFERENT CULTURE / KYOTO, JAPAN

During a research period in Kyoto the traditional townhouse 'Machiya' was studies to understand the transitions from public to private and to understand the qualities of this old townhouse in general. Interestingly the Machiya had very much in common with the traditional Dutch house. They both had a clear space between public and private. The Dutch house had its sidewalk with elements that marked the borders (material changes, a bench, a step). The Machiya had this space as well, called 'en' – bridge, between two conditions, between public and private. But the codes that mark the space were different. The research brought even more understanding of the Machiya neighbourhood, the typical *fukuroji* neighborhood.[15] The Machiya has a space to encounter in front of the shop, marked by material change of the sidewalk, a bench and attributes like a roof and hedges. Next to the shop is the often open entrance to the house. The boundary to the very private area of the house is not here but inside, at a patio for guests to wait for further entrance. The light in there and a bench make this space inviting and rejecting – both.

The *fukuroji* consists of small row houses on both sides of a little path (*roji*), often with a shrine at the end of the path with flowers, which gives a feeling of protection. Little material changes in the path form a border that is – unconsciously – understood and respected and even stressed by plants the dwellers put outside. Machiya and row houses have closed facades with lattice work. As a foreigner you will feel some exclusiveness of the *roji*.



Different cultural codes enhance the area between street and house, public and private

Codes between public and private: Left: The entrance to the private home – in the back the public patio, where guests have to wait. Middle: A curtain marks the entrance to the waiting area (right).

Sitting on the bench. A view towards the first private garden.

A roji in Kyoto with clear borders between path and house.

CONCLUDING REMARKS

In this paper the design and use of *transitional space* between public and private is discussed. *Transitional space* was interpreted differently in different decennia. The two Dutch cases already show changes of this space from a place to encounter to a protected and again to a lively place. The ideas about 'public domain' changed in the 50th and 60th drastically, separating the street as an enemy from the house. Mass housing and estrangement caused a change of vision and lead to projects with elaborated transitional space in front of the house by architectural design. Residents appropriate it which shows that design can invite to do this. The transitional space needs to be understood as a place to encounter and the codes need to be clear. The international example shows the cultural influence on codes and similarities like benches, flowers, roofs. They show that observation is a very practical and convincing method, often completed with interview to get the right understanding, especially in other cultures.

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[6] As the Latin word *transition* means "going across or over", the action of a transition is to go from one condition to another.
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[11] Jan Gehl. *Live between Buildings – using public space* (1987/2011).
[12] Simon Unwin. *Analysing architecture*. (Londen: Routledge, 2009) 209: "Experiencing products of architecture involves movement. One passes from outside to inside, or through the serial stages of a route. Even in a simple enclosed space it is not possible to look in all directions simultaneously, so one moves around."

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Cities, Communities and Homes: Is the Urban Future Livable?
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THE MAKING OF A LIVEABLE COMMUNITY AT NEW WORTLEY, LEEDS

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INTRODUCTION

In 2009 academics and students at Leeds Beckett University (LBU) embarked upon a design project with the community of New Wortley to provide a new community building. What transpired was something much more meaningful and profound. In the eight years since, a collaborative co-design process between LBU and a diverse collective of stakeholders has sought to establish a more cohesive and liveable community environment in Leeds' most deprived area. Passionate collaboration has empowered this previously marginalised community through a groundswell of mutual action referred to by the writers as 'Emergent Community Governance'[1].

New Wortley, an inner-city suburb of southwest Leeds is the city's most impoverished with 34% of people claiming out of work benefits. Rows of red brick back-to-back terrace housing were collapsed into their basement in the 1960's slum clearance. In their place, a Radburn design estate of poor quality semi-detached and adjacent high-rise dwellings were erected. The traditional high street has been slowly eroded by legislative moves and piecemeal demolition. Today New Wortley has little urban quality or identity to be proud of or relate to, it is a harsh and disconnected physical environment. This is matched by the social situation where the needle exchange at the pharmacy next door to New Wortley Community Centre (NWCC) is the most heavily used in Leeds. Coupled with the highest suicide rate in the city, New Wortley has an average life expectancy of just fifty years of age.

Figure 1. New Wortley, Leeds (Irena Bauman)

New Wortley Community Association's (NWCA) aspirations had significantly outgrown their existing community centre, a 1982 building no longer fit for purpose and in need of repairs. Although the building has been in continued and popular use, little investment in its up keep and a total reliance on volunteers created a hand to mouth existence.

Having no funds to commission traditional architectural consultancy, NWCA approached the Leeds School of Architecture at Leeds Beckett University requiring a 'concept design' for a new community centre, situated adjacent to the existing. The purpose of the design work would be to act as the catalyst for fund-raising. The brief called for an inspirational multi-purpose space with commercial functions, enabling the centre to expand its reach and sustain itself in the future. Development of the project was overseen by Project Office, Leeds Beckett University's in-house architectural consultancy organised as a collaborative research facility between staff and students making ethical, social and resilient architecture, working with like-minded communities, organisations and individuals.

The new building opened its doors to the community on 29th July 2016. Funded by a £759,497 Big Lottery Reaching Communities grant. Delivering the new building on time and on budget proved a facilitator for continued further investment including an Our Place initiative grant, an NHS pilot scheme to create a Health & Wellbeing Centre and Power to Change funding to explore the creation of social housing. The new building supports an expansive range of activities, programmes and collaborations managed by NWCA including an ex-offenders programme, housing advice, employability skills, creative arts groups, health and wellbeing activities, youth groups, breakfast club, and much more.

This paper describes a co-design model where university students use their academic learning environments and productive endeavour to co-design meaningful and positive contributions to society with a network of social participants, as one strategy for creating Liveable Urban Futures. The paper goes on to establish the social and economic impact of the collective endeavour upon the community to date. The architecture project is only one part of the co-production practices within New Wortley. The writers have previously described this as 'emergent community governance'[1]. The Community of Practice is changing the governance structures and methods of participation within the Community of Place.

DEFINITIONS

Co-design

The term co-design is used in numerous ways, including as an umbrella term for participatory design, and variants thereof, or co-creation. For the context of this paper however it is more specific. Co-design is the act, or methodology, used to enable forms of participatory design where all participants are learners within a 'situated learning environment' building on Sanders and Stappers[2] definition as "the creativity of designers and people not trained in design working together in the design development process". In New Wortley, this definition is furthered to inculcate the work being undertaken is *for* the non-design trained group of participants. The initial co-design saw a collaborative process between LBU students and community stakeholders to design and deliver a new community centre building, for that community.

Community

Halsey[3] suggested the word *community* has "so many meanings as to be meaningless…" but this is the very word residents and activists use to denote themselves. Thus, in the context of New Wortley, the definition builds on Sutton & Kolaja's[4] description as "a number of families residing in a relatively

small area within which they have developed a more or less complete socio-cultural definition imbued with collective identification and by means of which they solve problems arising from the sharing of an area" but goes much further than a *number of families* to include a diverse collective, not all of whom live in the defined local vicinity, but all participate and have a vested interest in the social coherence, governance and regeneration of the area. Consequently, the notion of community in this instance has an extended affiliation to those engaged with the processes of making a more liveable New Wortley, and cites Wenger-Trayner's[5] definition, as illustrated in Figure 2:

1. Community of Place.
   Everyone who resides within the geographic locale and subsequently are the intended recipients of NWCA amenities and services.
2. Community of Interest.
   An amalgam of individuals and groups, external to the geographic locale, interested in working, supplying, or engaging with New Wortley.
3. Community of Practice.
   The overlap between the Community of Place and Community of Interest, where members collaboratively work on specific projects to facilitate investment and continued improvement in this previously overlooked locale, including a number of political, professional and academic figures such as LBU, who have embedded themselves over a number of years.

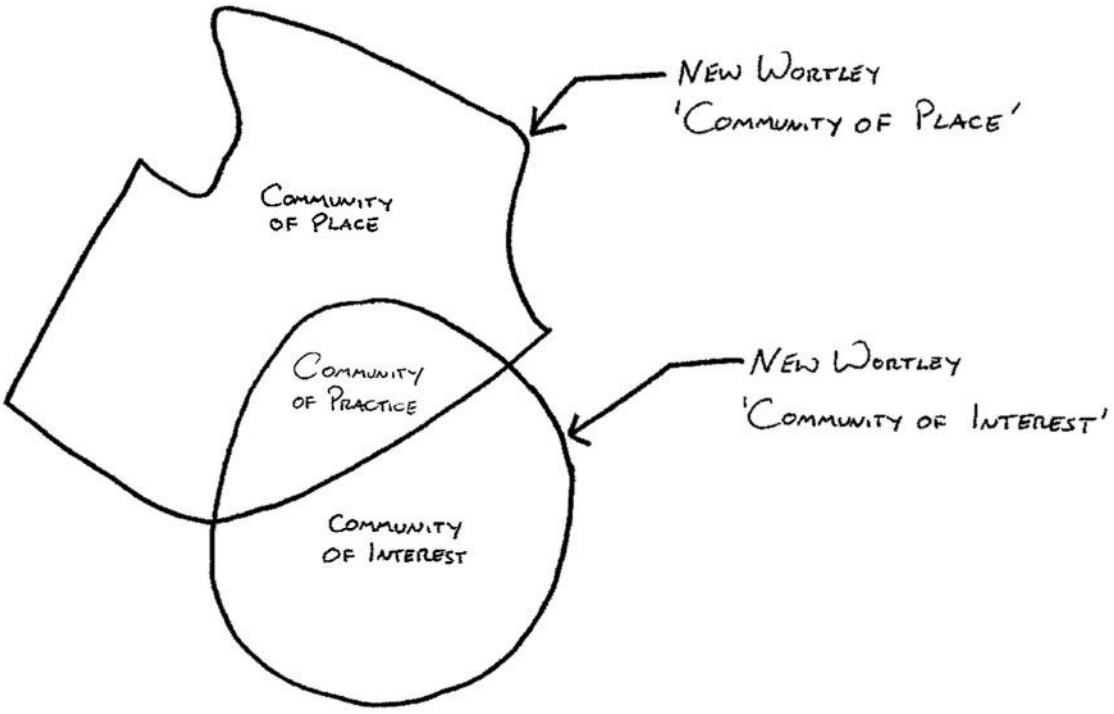

Figure 2. Relationship of Intersecting Communities

NWCA

The New Wortley Community Association is a volunteer organisation which has "existed since 1982 and works to provide services and support to the people of New Wortley, one of the most deprived parts of Leeds. We operate and run the New Wortley Community Centre, which is a hub for services and support. The Community Centre is owned by the Community Association, a registered charity and

an organisation that exists to help the people of New Wortley. New Wortley Community Centre was the first community owned Community Centre in Leeds!"[7]
A board of directors, all giving their time for free, oversee NWCA. It comprises five individuals (four of whom live locally) including a Leeds City Councillor, nursery manager and a pharmacist. It also employs a business development manager who was pivotal in the funding application process and the everyday running of the community centre, a catering manager and numerous others, whilst supervising the volunteer programme discussed in greater detail later. NWCA seeks to represent everyone within the Community of Place looking to engage with improving New Wortley as a liveable urban area and thus NWCA is used throughout this paper as the terminology expressing the output from the Community of Practice's collective endeavours. This includes numerous projects such as the new community centre building, pocket park, green walkway, Our Place initiative investment, health & wellbeing centre pilot scheme, and various other investments.

CO-DESIGN

The nascent co-design process forged between NWCA and LBU catalysed the series of impacts outlined in this paper. The model creates 'situated learning environments'[8] where students, their live project educators, and client team all gain knowledge and understanding. Many third sector organisations are in desperate need of specialist input to improve their facilities and thus the services they offer, but have no finance to achieve this. Seeking support for such improvements requires a design and budget estimate, costing money the organisation doesn't have, and thus a catch-22 paradox. The solution advocated by this research uses the productive endeavour of a student body to generate the feasibility studies required for a client to obtain funding. In this instance, a second-year undergraduate architecture project in January 2010, resulted in a £759,497 BIG Lottery Reaching Communities grant to build a new community centre. The process was overseen by the University's in-house RIBA Chartered Architecture practice Project Office. Students from four further courses participated: Architectural technology, graphic design, product design and landscape architecture. In total the co-design engaged 196 people, including client team, principal contractor, volunteers and building consultants. Through participation, each individual meaningfully contributed to society whilst simultaneously learning from those around them.
David Harvey[9] stated "the orchestrated production of urban image can, if successful, create a sense of social solidarity, civic pride and loyalty to place." To this end, the New Wortley co-design process and resulting new building, has generated such civic pride in the Community of Place that NWCA has capitalised upon the interest to grow beyond the range of services they had first imagined. Delivering the project on time and on budget has led to continued investment through bodies including Power to Change, Our Place, and the NHS, totalling nearly £750,000. The co-design also continues, a new entrance to the existing community centre building is being developed following another second-year architecture student's design, though the possibility of totally redeveloping the existing building into a new health & wellbeing centre is also being discussed. Ideas for social housing are about to be developed, with NWCA becoming a registered social landlord. A skills map is being curated to understand more about the social capital. A large proportion of the Community of Place live in four Leeds City Council owned tower blocks, many of whom are asylum seekers struggling to integrate into the area, but may have professions / trades which can be utilised. Thus, the skills map intends to aid migrant integration through deploying their abilities appropriately.

DATA COLLECTION

A series of studies have been undertaken considering the social and economic impact upon the Community of Place by NWCA's actions. Both are important. The project is about people, evidenced

through qualitative responses, yet financial implications are more widely understood, supported and exported as exemplarily practice, through quantitative data, thus, both are collated.
Initially a logic model was created, listing the full range of participants and stakeholders, resulting in a number of realisations. This led on to two surveys focusing upon crime & safety and service usage, followed by focus groups with service providers. A programme of bi-annual data collection is now in place, such that provisions are continually monitored, developed and improved upon.
The logic model is a live document compiled by specific community activists within the Community of Practice including the NWCC manager and Project Office. At the time of writing seventy-three stakeholder groups exist ranging from centre users and service providers, to local government agencies, university departments and many local businesses. It became clear through the logic model that a core component of the influence on liveability in the immediate locale is the range and quantity of interested parties involved.

IMPACT ON THE COMMUNITY

Prior to the new community centre building, NWCA offered fourteen services over forty hours per week, run by two paid members of staff with the aid of eight volunteers. The creation of the new building, the interest generated and the additional space available means NWCA now has fifteen paid staff and fifty-three volunteers providing forty-two services over eighty-five hours per week.
Clearly the increased range of services available is beneficial to those wanting to use the community centre. User numbers have increased dramatically in line with the improved offerings, from just over 200 people per week in 2014, to nearly 900 per week in 2017, illustrating the greater influence upon those living in the Community of Place.

Impact of Paid Staff

The effect is further demonstrated when the situation pertaining to new members of paid staff are analysed. Thirteen new salaried employees were economically inactive for a total sixty-six years prior to their appointments by NWCA. Analysis of House of Commons Library[10] data shows that in the most recent financial year available, 2011/12, the total UK benefits expenditure was £61bn, distributed across 5.2million individuals. An average unemployed individual claims £4,027 per year. In addition, the loss to the Treasury of potential income tax is an average of £7,703 per claimant. Thus, the overall cost to tax payers of an unemployed claimant is £11,730. Therefore, the sixty-six years of economic inactivity by the now employed individuals at NWCA cost the Treasury approximately £775,000.
The financial benefits are not limited to the Treasury. Eight of the thirteen new employees live within the Community of Place, with a further two living within a wider West Leeds area. A 2013 FSB[11] report suggests for every £1 spent locally, 63pence is reinvested in a local economy, as opposed just 40pence of money spent in large local firms (for example Asda). The report focuses upon small scale SME's, however the writers would assert NWCA is comparable as a small location specific charity offering a basic range of financial opportunities. Thus, through employing and investing in local individuals NWCA is stimulating economic growth within the Community of Place.
The notion of economic stimuli is further enhanced when NWCA's annual turnover is considered. In 2013 this totalled £80,522, £43,000 of which was trading income, £0 received for service delivery, £5,842 from room hire, and £26,750 from café and catering. In the immediate twelve months following completion of the new building on April 20th 2016, NWCA turned over £623,000; comprising £145,287 trading income, £43,000 service delivery, £37,500 room rental and £30,200 café and catering. An almost eight-fold increase in turnover in the first year exemplifies the manner of effect NWCA is having within the Community of Place and supports the figures of increased user

numbers and service providers. An area to note is the café and catering section, which increased by just 13%. The potential reasons behind this are discussed later.

Impact of Volunteers

More difficult to measure is the impact relating to increased volunteer numbers of fifty-three from eight. A 2013 Working Paper by the Department for Work and Pensions[12] built on Meier and Stutzer's[13] 2004 study of German reunification in an attempt to determine the value of volunteering using subjective wellbeing data that regular volunteers placed upon their activities. This should not necessarily be seen as an amount that people would be willing to pay to partake in voluntary work, rather it is the monetary equivalent of the wellbeing benefit derived from volunteering. At 2011 prices, the study estimated this value to be £13,500 per annum, thus with fifty-three volunteers each working an average of ten hours per week, NWCA can be said to influence local wellbeing to a tune of £178,875.

The wellbeing estimate is however difficult to interpret in such a manner because the cost is notional. A more relevant expression might be the value of a volunteer when match-funding their time, such as in a grant application. Guidance from Leeds Community Foundation[14] to NWCA values volunteers at £11.20 per hour for this purpose. Therefore fifty-three volunteers, each working an average of ten hours per week, are collectively worth £284,928 per annum assuming a forty-eight week working year. This is equivalent to an additional 45% on NWCA's latest twelve-month turnover figures, and thus the impact and influence of the volunteers cannot be overlooked or underestimated.

The NWCA volunteers are called Team New Wortley; it is a diverse assembly with varying intentions and agendas, unified in their requirement for stability and a purpose enabling them to move forward. Some individuals have learning difficulties and thus see NWCA as a long-term supporter providing a safe and secure environment outside of their own home. Others are recovering from illness or addiction and use NWCA as a springboard to obtaining employment, some are retired and stave social isolation by integration. A growing number have full time employment but care so deeply about their Community of Place's continued improvement they offer their free time willingly. Thus, at the core of this liveable urbanity sits an enclave which shelters, feeds, upskills, and ultimately empowers its members to the benefit of the Community of Place. This is the crux, exemplified by the social impact statistics.

Figure 3. NWCA

Social Impact

Building on the logic model two surveys focusing upon crime & safety and service usage have been conducted, followed up by focus groups with service providers. Over 100 individuals have been interviewed to date with the results illustrated below. All questionnaires took place within the Community of Place, however a shortfall in the data is the likelihood of those being questioned to be at least aware of NWCA. A strategy of participation for those unwilling to engage is being developed but not yet implemented, should return more accurate results.

Despite this, the clear trend of results indicates the work undertaken by NWCA is having an extremely positive effect on the liveable nature of the Community of Place, whilst simultaneously engaging an ever-widening realm of Community of Interest partners.

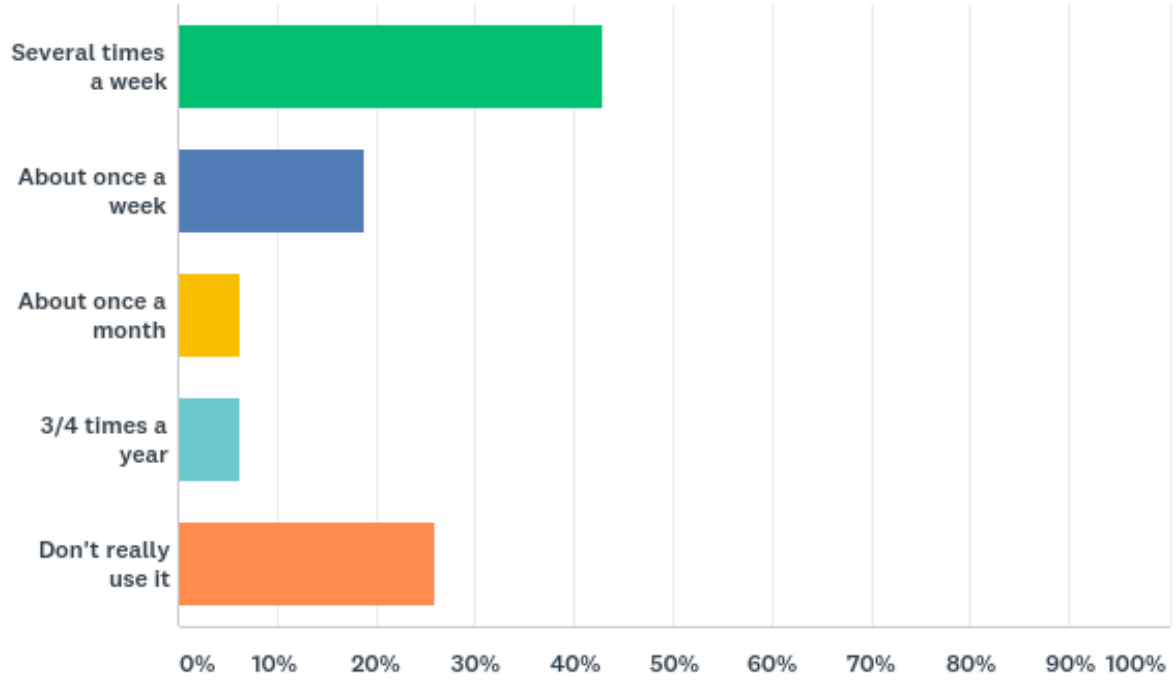

Figure 4. How frequently do you use the services and activities of NWCA?

NO	SAME AS BEFORE	YES	N/A	TOTAL
7.34%	19.27%	66.06%	7.34%	
8	21	72	8	109

Figure 5. Are you more likely to use the services and activities of NWCA now there is a new community centre?

Figures 4 & 5 should be considered together, with 66% of people questioned stating they are now more likely to use the NWCA's services now than before. This is echoed by the 450% increase in participant numbers from 2014 to 2017. It is a remarkably strong indication after only 12months of the influence the new centre is having upon the Community of Place.

LITTLE OR NO IMPACT	OK IMPACT	GOOD IMPACT	N/A	TOTAL
13.89%	10.19%	63.89%	12.04%	
15	11	69	13	108

Figure 6. Will services provided NWCA have a positive impact on your life?

Figures 6 is substantial in demonstrating the effect of NWCA upon the Community of Place, with 64% believing it is having a positive impact. It is likely that increased services aimed at helping people are the substantive reason for the increased usage statistics illustrated in Figures 2 & 3.

	NO IMPACT	A LITTLE BIT OF IMPACT	QUITE GOOD IMPACT	EXCELLENT IMPACT	N/A	TOTAL
Health & Wellbeing	17.12% 19	11.71% 13	24.32% 27	26.13% 29	20.72% 23	111
Education	28.18% 31	8.18% 9	21.82% 24	15.45% 17	26.36% 29	110
Employment	24.77% 27	10.09% 11	16.51% 18	14.68% 16	33.94% 37	109

Figure 7. Has being involved with NWCA had an impact on your health and wellbeing, education and / or employment?

Figures 7 states approximately 40% - 50% of those questioned identify NWCA as helping improve their health & wellbeing, education and / or employment. The importance of these findings is validated in an area where a third of adults are unemployed, 25% have no qualifications, with a further 37% having GCSE as their highest qualification[15].

LESS SAFE	NO CHANGE	FEEL A BIT SAFER	FEEL A LOT SAFER	N/A	TOTAL
0.00% 0	28.04% 30	22.43% 24	32.71% 35	16.82% 18	107

Figure 8. Do you feel safer in the Community now compared to before the new building opened?

Whilst the reasons have not yet been studied, NWCA feel the sense of greater safety and security felt by the Community of Place likely stems from the increased Centre user numbers and the associated consequence of individuals now knowing a greater number of the Community of Place populous. Further, the work being undertaken by NWCA is helping a growing number of individuals, with a specific target group of young men in danger of engaging in either gang culture or narcotic supply. A final component is the success of the prisoner greeting scheme, discussed below. Whatever the reason, the relevance of safety in social capital is crucial for continued local investment by, and within, the locale as discussed by Paul Whiteley[16] who states that "Social capital is ultimately a set of social values and… that voluntary groups clearly help to facilitate the diffusion of trust throughout society" and perhaps more importantly that "findings support the idea, found in the work of several researchers, that values play a key role in explaining variations in economic performance, and they cannot be ignored in any properly specified model of economic growth."

Prisoner Greeting Scheme

Run by a local ex-offender and NWCA volunteer, now a full-time member of NWCA staff, the Prisoner greeting scheme works with HMP Leeds situated less than a kilometre from NWCC. Already gaining national recognition following a Guardian[17] article, the scheme seeks to help released prisoners from reoffending by aligning them with accommodation, benefits acumen and occupational opportunities.

The scheme has worked with eighty-two individuals to date. According to statistics released by the Department for Justice[18], the most recent being 2015, the West Leeds reoffending rate is approximately 34%. Thus, twenty-eight of those individuals would usually reoffend. Only two have to date. Given reoffending costs are in the range of £112,500 to £168,750 per person[19], the scheme run by

NWCA has consequently saved the Treasury between £2,925,000 and £4,387,500. Factor in the £30,930 per year cost of an HMP Leeds inmate, and the figure in real terms is far greater.

Figure 9. Ken runs the Prisoner Greeting Scheme

AREAS FOR IMPROVEMENT

The positive impacts outlined in this paper are improving the quality of life for many inhabitants in the Community of Place, yet there is still a substantial amount still to achieve. The obvious downfall is people within the community as yet not being reached. There are numerous reasons including the range of services not yet providing something for everyone, a continued apathy amongst many members of this marginalised community, and a perceived sense by some of NWCA being a clique difficult to integrate with for newcomers. The Community of Practice will need to keep growing to be able to widen its effect over time.

In a strategic sense, the co-design process embedded at the core of this project highlights a number of issues which could discourage the undertaking of similar processes elsewhere. The single largest factor relates to the sheer investment of person-hours required to oversee and facilitate the project. Project Office has, particularly because of its privileged position within the university and the dedication of its co-directors, been able to provide service to the project over an eight-year duration to date. This means providing continuous facilitation, reflection and direction to the process, individuals and ensemble which manifests as a coherent whole. To do this successfully requires a dedication and sustained period of duty, which for many is unrealistic. The underpinning element in this experiment has therefore been longevity. Leeds Beckett University staff and students have worked with the Community of Place for over eight years to date, and continue to do so, which enables the commitment to be rationalised into appropriate parcels. This suggests educational establishments could contribute so much more directly to society.

A further issue, linked to the above, is reliance on the goodwill of participants in the Community of Practice. The process is open and anyone is encouraged to become involved. This can lead to frustrations and even arguments between collaborators, which are disruptive with potentially negative consequences. In co-design it falls to all participants as co-contributors to mediate when this occurs,

attempting to ensure everyone remains engaged and positively contributing. However, as facilitator, Project Office's role is let this happen as naturally as possible with judicious intervention as required.
When co-designing, the aspiration is that all voices should be heard, but strong-willed participants can counter equal opportunity and forging the most beneficial path for the project; the opinion of he/she who shouts loudest must not necessarily prevail. In the co-design process therefore, a lead designer is required to remain impartial to safeguard objectivity and parity. On reflection, this is difficult to uphold in all instances. The writers' experience at New Wortley is amplified by some lovely but opinionated stakeholders who would strongly disagree with each other at times.
Another aspect of the collaboration between the community and the institution that required careful management by the educators is harmonisation of the client brief and the learning outcomes of the educational courses the students are enrolled on. Sometimes these do not match and the educators' responsibility is to make sure that where required the client brief be expanded in content or complexity to suit the particular course module that the student is engaged with. This can have the complication that without good communication to the Community of Practice there is a misunderstanding of what the aim of the work is. At New Wortley this was managed effectively through the co-design process, an example being the co-design for the landscape. The requirement was for a landscape strategy only around the immediate building. The landscape tutors felt this was not sufficiently complex to meet module learning outcomes, therefore the problem was discussed with key members of the Community of Practice, particularly board members. It emerged they had an aspiration to make New Wortley 'look' better. From this the student project was extended to the urban design strategy of an area much larger than that around the building. Students through the co-design process successfully produced a range of expansive and creative ideas. In this instance a simplified version was adopted which met NWCA's requirements for the area around the building. NWCA unsuccessfully (to date) applied for funding to carry out some of the aspects of the urban design strategy, however the success of the landscape design process is that by working through this paradox collectively, i.e. between the project's needs and student learning requirements a significant breakthrough was made in identifying and redefining the urban context through co-design. The urban strategy, although not implemented, remains an ambition of the community to achieve when capacity and funding is realised. The writers experience is that apparent paradoxical situations if confronted as opportunities will produce virtuous results.

Figure 10. Landscape design presentation

When considering finances, the café has not performed as successfully as other aspects of NWCA's business model, probably due to an architectural error in the co-design process. For security, the new community centre building has one entrance requiring all guests to sign in, from here one may transition into the café. Passing footfall wishing to purchase a coffee are unlikely to undertake the process, thus the café should have been separately accessed. With redevelopment of the existing building a potential future phase, this is an element to address.

The final lesson to be learnt sees NWCA a victim of their own success. In the range of services now offered a number have become so popular advance booking is required, potentially alienating the very people they are designed to serve. The prisoner greeting scheme has outgrown the space available entirely, requiring NWCA to now hire additional offices. Whilst to be celebrated in one regard, these issues raise serious questions relating to the actual possibility of achieving what NWCA aspire to – reaching everyone within the Community of Place. Thus, whilst the existing building will receive a facelift and a small increase in space in autumn 2017, funding is now being sought to at least double the current footprint. The continued influence of NWCA, and impact on the liveable future of the Community of Place, requires it to be found.

Figure 11. New Wortley Community Centre

CONCLUDING REMARKS

The research outlined in this paper exemplifies a non-standard practice for locally led improvements with the goal of creating a liveable urban future for the Community of Place in New Wortley, a component of which saw a co-design process between NWCA and Leeds Beckett University. The situated learning environment created through the endeavour of staff and students both galvanised a populous to take ownership of their locality, and provided the catalyst required to gain funding and grow influence and impact.

The co-design model undertaken in New Wortley and the aspirations of NWCA are ongoing and thus the areas for improvement identified are to be addressed as the project continues. Indeed, with each milestone reached, NWCA's intentions grow, meaning the eight years of collaborative working to date are likely to continue for at least that length of time again. The most recent development is a £75,000 Power to Change grant to develop a social housing strategy pilot scheme. The Community of Place's existing housing stock is inadequate for the majority and thus replacing this will, overtime, ensure many more members of the Community of Place collaborate with NWCA, with the likely outcome being a host of additional ideas for continued improvement.

NWCA now plays a pivotal role in its Community of Place and with a track record of gaining funding and delivering on intentions, intends to keep advancing until all inhabitants are offered a higher quality of life than they have become accustomed too, all of which has been made possible following the co-design process initiated in 2010.

In relation to LBU's role in this project, the writers have reflected profoundly upon how working with disadvantaged communities fits into education systems, specifically UK universities. The writers' know there are many more projects in the city region needing help to get off the ground, sadly because of the lack of capacity, Project Office has to turn away many similar projects. It is an objective to undertake further mapping exercises to determine the number of third sector organisations in Leeds who would benefit from co-design input.

Through the writers' initial enquiry, the range of support required is diverse, implying the model would work across many university subject areas including law, business, quantity surveying, engineering, health, dietetics, marketing, music, social care, etc… This further supports the ethos of this paper; co-design exposure to working professionally in multi-disciplinary environments equips students with the necessary skillset for professional careers whilst simultaneously providing vital support for third sector organisations, which ultimately creates a more liveable urban future.

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THE UNBUILT AND THE IDENTITY: INFLUENCE OF PUBLIC SPACE IN THE POST DISASTER RECOVERY.

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INTRODUCTION

Cities are, by their nature, dynamic systems experiencing continuous growth and modifications, owing their appearance to physical, socio-cultural, economic, environmental features, synthesizing a more complex network of interconnected factors.

From the early settlements to the contemporary metropolitan areas, the interaction between these aspects shaped and determined the behaviour of the urban organism. The mutual influence of natural and man-made determinants[1] has been responsible for place-specific layouts, changing according to location, climate, available resources and skills, as well as the predominant socio-cultural milieu. Any urban layout results by the juxtaposition of volumes and voids, respectively embodying tangibility and intangibility, solid reality filled with meanings and values. Building the environment means building its representation too, and complex spatial models turn into *social* models after a physical and anthropological contamination. The result is an organic concept of space [2] made of stratifications, both physical and ontological. In time, mutated social models have been reflected in the physical appearance of the built environment responding to, or determining, needs and behaviour of the modern liquid society[3] and proving Lefebvre's statement that ''*capitalism produced abstract space''*[4]. Non-places, separation, individuality, recently became the representation of a new experience of time, space, and social interaction, where the buildings turn into containers of individuals, labelled according to their function, whereas the unbuilt public space is a leftover, sum of meaningless gaps, a sort of ''*waste product of architectural blueprinting''*[5].

The above speculation crumbles when it comes to deal with the disasters, and the urban systems appear like fragile man-made encrustations exposed to catastrophes: earthquakes, flooding, hurricanes, landslides invert the system of spatial values in a short time, setting aside any advanced theoretical conjectures in the name of the atavistic need of safety.

The following sections will be an introduction to a wider research, aimed to reconsider the role of the open public space in the post-disaster recovery. The paper will outline the features of the Unbuilt involved in fostering identities and sense of belonging of evacuees, offering a reading of how it could influence the community's response to natural catastrophes. Beyond determining the immediate safety degree of a city in case of disaster, the gaps could reasonably address the later reaction of a community, fostering its resilience.

SETTING THE LEXICON

Built and Unbuilt

Built and Unbuilt represent the primary tangible determinant of the urban morphology, defining, in combination with the intrinsic predisposition of specific locations, the risk exposure and consequent response of cities.

The Open Public Space, including roads, squares and their minor unintended subcategories, plays a dual role: it is a spatial determinant and shaping element involved in the perception and fruition of the built component and it additionally acts as a crucial factor in the disaster response.

In the first case, depending on urban form's generators and growth mechanisms, it is assigned with functions and meanings: in the Middle-Eastern settlements the maze of narrow, dead-ended streets, arranged according to a symbolic and functional hierarchy, results in intricate, intentionally complex patterns, revealing the predominance of the built over the unbuilt. Same density, but a different socio-cultural framework, characterizes most of the medieval European towns, where the blocks are defined by a skeleton made of roads and squares[6].

The examples imply a service function of the Unbuilt, within a volume-oriented morphological hierarchy where the built elements play –for their nature- the role of the safe shelter that the external environment can hardly penetrate. In the newest cityscapes, the building absorbed functions traditionally ascribed to the Unbuilt: the concept of market square is replaced by the mall, a traffic-oriented planning cut the pedestrian itineraries or moved them to the underground transportation. The traditional, Public Open Space made of squares and roads, evidently weakened and deprived of its meaning, represents a criticality both for planners and urban designers, the latter acting punctually where the urban planning left unintended voids.

Nevertheless, if we look at the disaster recovery, it is intuitive that distribution, shape, accessibility and size of Public Open Space matter: in fact, they determine the immediate reaction as well as the long-term behaviour of the urban system and, consequently, its capacity of rebound.

Vulnerability of the Urban Systems

Every Urban System interacts with the environment, thus being subjected to several degrees of risk, increased by its exposure to disasters.

Conventionally, a disaster is intended as *''serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resource''* [7].

The concept of vulnerability sums up the characteristics that increase the susceptibility of the system, both in terms of predisposition (hazard exposure) and in terms of expected response (how adversely it is thought to be affected, and which degree of resilience is it supposed to show).

Among the several factors whose combination determines the rate of vulnerability, the *condition of human settlements and infrastructures*[8] is crucial. It includes both the buildings' structural resistance to extraordinary actions and the capacity of Critical Infrastructures and open areas to uphold the emergency's extra loads.

Beyond the CI network (*the electricity provision, transportation networks, water supply, wastewater systems, hospital facilities and other systems which are essential to maintaining a satisfactory level of functioning in an urban environment*[9]) a capillary and homogeneous distribution of open areas for the temporary waiting is essential in allowing a prompt external aid, and to sew up the fragmented system in the further stages.

Social Infrastructure

A city, like a living organism, can't be reduced to a mere juxtaposition of components: assembling its parts with meticulous attention is completely meaningless when the spark of life is missing. The life of a city is the spirit of its community, and the statement *''cities are more than buildings''*[10] is accentuated in the post-disaster recovery, when the main task is to promptly and efficiently rebuild both physical reality and social structure. The primary element to be protected and efficiently restored is the Social Infrastructure that is the system of connections, often at the neighbourhood level, linking the individual needs in a wide network of activities and bonds. Its intangibility is counterbalanced by its influence in the social restoration after catastrophes, as demonstrated by most of the post-disaster reports worldwide: the evacuees' first need, after escaping the immediate danger, is reactivating the broken ordinary life, as shown in several examples throughout the recent history. From the self-built neighbourhood refugee camps in San Francisco (1906) to Mexico City (1985) where soon after the earthquake ''*people began to organize on their own* […] *Their efforts ensured that certain activities were recovered or restored, ranging from housing to medical services*''[11], up to Gibellina, Italy (1968) where the relocated people rose up moving back and establishing next to the familiar environment of their daily life[12], the common element is a strong identity and sense of belonging both to the place and the community. These intangible values are crucial in the post-disaster rebound, beyond the need to resort to existing, safe, available areas to establish camps and activities.

THE OPEN SPACE AND THE POST DISASTER RECOVERY

The Post-disaster scenario: the Response.

Disasters imply dealing with the evacuation and displacement of population, to be managed promptly, with little or no forewarning, in the early emergency.

Fiorino[13] states that, being these events cyclical phenomena, a likewise cyclical management is requested, made of interconnected, often overlapping stages: Response, Recovery, Mitigation and Preparation[14]. This sequence, activating soon after the event and synthesizing the gradual process to reestablish the balance in the affected systems, comprises the actions of Emergency, Restoration, Reconstruction, Capacity Building and Pre-Impact. We will focus on the early Emergency, injecting the Response that will predispose the system to Recovery through Restoration and Reconstruction.

A picture taken at this stage would include the first aid actions and the safety measures aimed to prevent the population from any further harmful situation. The *Emergency Sheltering*[15], the makeshift allocation soon after the event, is generally achieved using cars until camps are set or alternative settling solution offered.

The function of public open space begins to change: waiting areas and available routes are crucial for escaping the zones at risk. With referring to earthquakes, after the main shock people escape from buildings, gathering in the open areas, showing a quick inversion in the perception of safety (indoor VS outdoor space). Capacity and accessibility of the open areas are crucial to facilitate the evacuation and safe positioning of people.

Towards the Recovery

Even if there is no sharp edge between the phases of Response and Recovery[16] because the condition of the emergency characteristic of the first is persisting in the latter, we can consider the Recovery as the stage of reactivation of the population's regular life after the disaster. It is preliminary to the actual reconstruction and it comprises the set of actions aimed to improve and redevelop the affected areas[17].

It starts with the *Temporary Sheltering*, consisting of moving homeless people to evacuees' camps or safe locations, such as indoor sporting areas and barracks, specified in the Evacuation Plans.
The emergency is still ongoing, areas at risk are evacuated and patrolled in order to safeguard both humans and the empty buildings[18]. The need to relocate the displaced people is contrasted by their reluctance to move far from their house or neighbourhood, both for safety and emotional reasons.
For this reason, when identifying potential areas to set the camps, the evaluation of the public open space both in terms of safety and terms of meanings to the community becomes a determinant for a successful sheltering and early social recovery.

EXPERIENCING THE RESPONSE

Through the post-disaster literature, several degrees of correspondence between spatial meanings, common identity and community response can be inferred.

San Francisco

In San Francisco, after the earthquake that stroke the city on April 18th1906, the Emergency Sheltering and Temporary Sheltering were almost coincident: the planned grid layout of the city, even if occasionally deformed by the orography, provided accessible safe areas. Inhabitants slept out on the streets soon after the earthquake and, driven by the neighbourhood spirit and aided by the several military corps headquartered in the city[19], they established camp activities, public kitchens and facilities in the following days as shown in Figure 1. Allan and Bryant[20], quoting Greely (1906) refer that no relocation took place, since the well distributed public parks and open areas of the city, as well as roads and the accessible private gardens, provided the space for re-setting the ordinary life district by district. This decision was a grassroots initiative, which revealed to be extremely efficient: ten days after the earthquake, when the shipped external aid in the form of tents reached the city, the camps were already set and only some regularization and minor adjustment was necessary with the supervision of the military corps. Considering the number of settled homeless people (200.000) and the enterprising spirit permeating the community, the early emergency was handled with cooperation and efficiency providing a virtuous example of response.
The distribution and availability of open space can be considered a determinant element: people, sheltered in their neighbourhood, easily reestablished the preexisting network of social relations which allowed them to cope with the post-disaster stress.

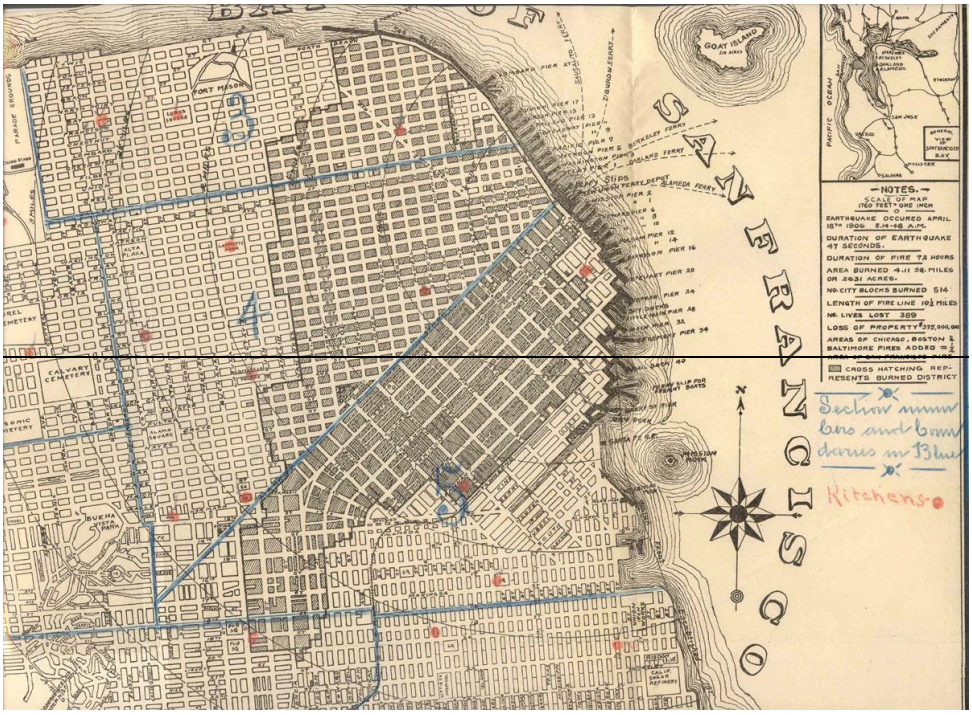

Figure 1. San Francisco 1906, a map drawn for the Army in the Aftermath of 1906's Earthquake and Fire. The blue lines show the boundaries of relief areas, the red dots indicate the locations for kitchens (Source: United States Senate, National Archives)

L'Aquila

A different behaviour was recorded in L'Aquila, after April 6th2009. The Medieval, planned historical centre within the city walls is characterized by high density of buildings whereas the outskirts, resulting after later expansions, show lower density and irregular layout. The historical city is defined by an orthogonal road system made up of narrow streets and alleys, massive palaces with internal courtyards and squares suddenly opening along the roads (see Figure 2). The aesthetic value of such a system is counterbalanced by a scarce efficiency in case of emergency, as shown after the event of April 2009, at 3.32 am. Soon after the event, the streets were filled with debris of the collapsed buildings, offering unsafe escape routes and low accessibility to the unevenly distributed squares: the perceived safety was inversely proportional to the sense of enclosure and scarcity of escapes. The Emergency Sheltering was unrealizable within the city walls and evacuees filled roads and open areas outside. Fire Brigade and Civil Protection intervened immediately, supported by regional and national volunteers. In the aftermath of the event the historical city was declared *Red Zone* (high risk) and evacuated by Administrative Decree[21]. In less than 24 hours 170 camps for Temporary Sheltering were set and more than 70.000 evacuated people were given the option to be displaced to the coastal areas or to stay in camps. After the first 48 hours, more than 10.000 rescuers were operating on the several sites scattered around the city, to remove debris and support the affected population, setting the camps.[22]

Common features to all the camps were the military presence controlling, patrolling, and supervising the activities, to guarantee adequate levels of security; the provision of common services and facilities such as toilets and dining areas; the common kitchen managed by the Civil Protection or Red Cross volunteers. Each tent contained 8 beds, therefore more than one family unit shared the same tent, assigned regardless of any preexisting social bond. In such a scenario, the communities reacted in opposite ways: two main trends recorded in the camps will be now discussed, referring to the urban (Piazza d'Armi) and the peri-urban area (Santa Rufina).

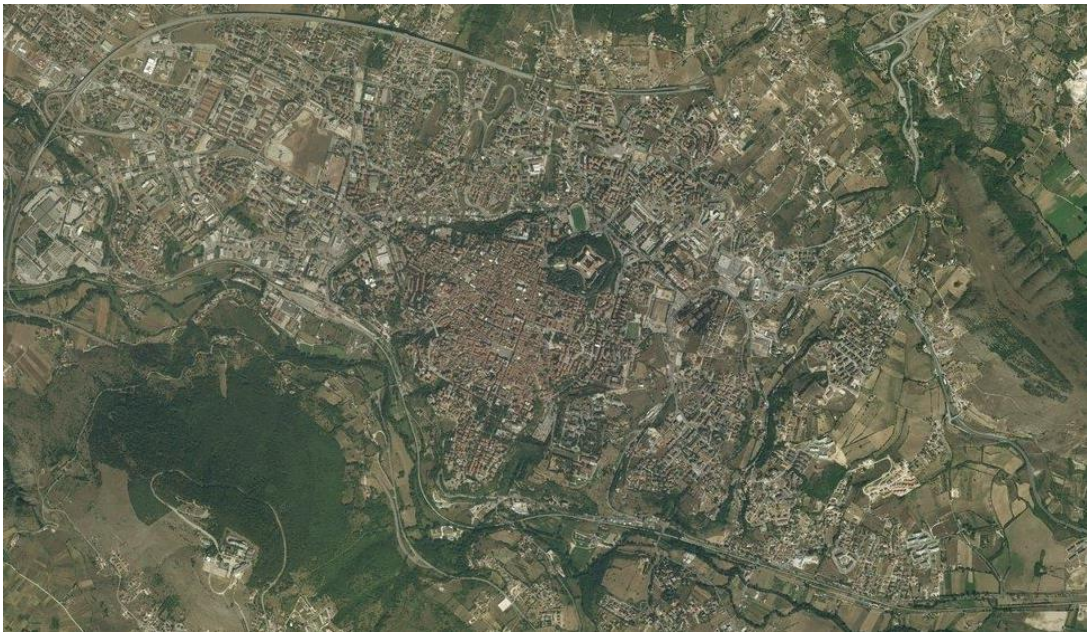

Figure 2. L'Aquila, aerial view showing the medieval layout in contrast with the outskirts. (Source: Google Maps)

Piazza d'Armi

Piazza d'Armi is the public sporting area of the city, located in a district where the open spaces were unplanned leftovers converted into low-quality gardens or parking lots. After the earthquake, its size and accessibility turned it into a camp gathering 2000 people from the surrounding outskirts neighbourhoods and the city centre. Being it a crowded camp, a higher control from the tasked units was necessary, and grassroots initiatives were reduced. Additionally, the lack of environmental quality, landmarks and aesthetic value, and a skyline of evacuated blocks affected the spatial perception of an already exhausted community. The virtual space replaced the missing physical space; social networks and the camp's online journal portrayed the difficult reality through the eyes of evacuees and volunteers.

''I am a volunteer and I spent one week working in your (Piazza d'Armi) camp. It must be said that […] maybe some people are rowing in two opposite directions without understanding that it is important to row together in the same direction, to get results […] we as volunteers are not there as freeloaders, but rather to help you, even if you should be able to help yourself […][23]*''*

Forced inactivity, dissatisfaction and scarce social bonds due to a missing integration between people, in addition to the emotional reaction to the earthquake and the sense of loss, exacerbated the social segregation as well as the psychological diseases recorded by the health centre units. Many serious events recorded in the local hard news portrayed a not close community[24].

When the temporary housing became available tents were dismantled[25] (4th September-December 2009[26]) and the area was returned to its former function, undergoing a requalification project to enhance its capacity of public sporting area.

Santa Rufina

Santa Rufina is a small village part of L'Aquila Municipality, 5 km distant from the city, counting a population of fewer than 500 people in 2009.

It developed along one main street, around which houses clustered; the village church marks the entrance, preceding the built-up area and the small square hosting the traditional celebrations.

After April 6th, 2009 the town was declared *Red Zone* and all the population was evacuated. The square, gathering area soon after the event, was not suitable for temporary sheltering due to its proximity to many unsafe buildings. Civil Protection individuated an alternative option less than 500 mt farther, in the open field nearby the church, where 60 tents for 480 people were set (See Figure 4).
The camp was managed with the mentioned criteria but its size and location played an important role in reestablishing a daily routine and preserving the quality of evacuees' life. The community participated in the main activities, groups of volunteers aided by the locals built the temporary church, moved the church bell at the entrance of the camp, established activities for kids[27]. The parish spirit and empathy strengthened bonds and supported people coping with the emergency.
The village's neighbourhood spirit permeated the camp: the small community experienced the relocation nearby the areas where the social life had been taking place so far, close to the strong landmark and spiritual symbol of the church.
On the 10th October 2009 the camp was dismantled and, later, temporary housing modules (MAP) were established on the same site. The grassroots activities increased: the sparkle of cooperation and participatory initiatives led to a self-built public space for kids (named *Parcobaleno*[28]) embodying the spirit of the community and its will to overcome the disaster repossessing the space.

Figure 4. View of Santa Rufina (AQ) in 2009 including the village, the camp, and the church bell tower acting as a landmark (source: santarufina.org).

CONCLUDING REMARKS

After a catastrophe, the way a community copes with disasters is influenced by several factors but, since the very first stage of the emergency, the Unbuilt plays a pivotal role both in terms of safety and in terms of meaning. An even distribution of public open spaces, generally associated with a low density of the built component, allows a safe escape and a better management of the evacuees' sheltering, whereas a highly dense layout impedes those operations.
In both the cases, the tangible and intangible quality of open areas selected for temporary sheltering is a substantial requirement. The proximity of the camp to the familiar neighbourhood, its size, the presence of strong symbolic elements -acting as positive landmark imbued with common values and stratified collective memory- revealed to strengthen the communities, in contrast with the weakening experiences recorded where the above conditions were missing.
The offered qualitative investigation exhorts to address the risk management planning towards additional criteria, beyond mere size and availability, when choosing the public open spaces for emergency purposes. A proper environmental, architectural, and social framework as a permanent background could positively condition the community response, thus producing virtuous models able to speed up the social recovery.

The above suggestions move from the deep awareness that rebuilding the physical component of a city is just one step towards its actual recovery.

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THE ROLE OF SOCIAL MEDIA FOR THE CREATION OF PLACE AND BELONGING IN TERMS OF DIFFERENT TENURE GROUPS

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INTRODUCTION

This paper considers how housing tenures shape (s)elective belonging and place making-maintenance. The impact of residential status, namely that of becoming a landlord, owner-occupier or tenant, is generally discussed in the literature in terms of these groups relationships with each other and the organisation of their daily life in terms of its similarities and differences. However, there has been little research to analyse the above aspects in terms of the role of social media. Existing studies have not adequately addressed the issue of the differences between different tenure groups in terms of the impact of social media. This new area requires further attention in order to re-evaluate existing studies from an online communication perspective. How does online involvement vary with residential status? This project sheds new light on the neglected issue of social media in the creation of place and belonging in a specific area, as related to residential status. In addition, when comparing this research with the existing literature, it is clear that differences in personal interests, preferences, age and generation also influence online involvement. In this project, the author considers Ocean Village in Southampton as an example of a redeveloping waterfront area in order to demonstrate the differences between owner-occupiers, tenants and landlords in terms of the function of social media to achieve creation of their place and belonging. .

SETTING THE SCENE

In the neoliberal era, urban spaces have become increasingly valuable and important devices by which to derive greater benefit within the community[2]. Urban areas are becoming increasingly available to private companies, allowing them to pursue their own projects with less overview, or indeed control, from the state[3]. In the UK, neoliberal urbanism is created by such policies: after 1979, with the Thatcher era, the privatisation of social housing and subsidising of new owners began with inception of the Right to Buy (RTB)[4] policy. Then, the subsequent Buy to Let (BTL) policy in 1996 and Help to Buy (HTB), which emerged in 2013, helped to support new homeowners in terms of securing a deposit or mortgage[5]. The UK Central government and its local governments, under pressure from central government, supported these policies; while they continue to support them, they ultimately represent a considerable loss in terms of future income and customers.

In the course of exploring urban life in terms of community ties, types and social relationships, the meanings of place and belonging have become more complicated than in pre-modern times, and are clearly not connected to a mere single place[6].

It is essential to note the importance of the relationships between place and belonging. According to Benson (2014: 3101) "…the relationships that people have with their places of residence are often framed through the language of belonging"[7]. Furthermore, she argues that belonging emerges with a specific kind of residential environment and place. For belonging, people must initially have certain

preferences, which might be termed 'elective' or 'selective' belonging[8]. In order to properly understand the reactions of members of communities to place and other people, these two aspects cannot be thought of in a separate manner.

Lastly, in light of the existing situation in the housing market in neoliberal urban life and social life in this environment, the author will analyse how different groups use social media in the context of creating communities, place making and place maintenance. In this case, there are three main arguments in the literature that define the role of the internet and social media: the internet is creating weak communities[9], it is enhancing communities[10] and/or it is transforming communities.[11] This categorisation illustrates the fact that the aim and function of the internet, social media and other technological improvements, depends on users' purposes. I will focus on social media groups in particular to understand the differences or similarities between tenure groups in these virtual community environments.

THE CASE OF OCEAN VILLAGE AND COLLECTION OF DATA

Ocean Village is a redeveloping waterfront area in the South of England, Southampton. In August 1842, the Outer Dock's (now the Ocean Village Marina) construction was started in a 16-acre area.[12]. The transformation of the Outer Dock, now called Ocean Village, began in the second half of the 1980s. The redevelopment of Ocean Village began in 1986 with the construction of the Canute's Pavilion shopping centre; 49 shops with galleries for exhibitions were also completed in the first years of the area's redevelopment.[13] Ocean Village has continued to change over the last few decades with the addition of new developments since its initial transformation; there was a slowdown in this regard in 2008 and 2009 because of the worldwide financial crisis,[14] but there has since been continuous development. Admiral's Quay officially opened in mid-February 2015, and offers Southampton's residents a variety of new cafes, restaurants and flats for their enjoyment.[15] Lastly, Ocean Village's new five-star hotel opened in the last quarter of 2017.

Finally, Ocean Village comprises different online communities, which overlap with the offline communities. The various social media groups have between 100 and 1041 members (06.12.2017). These online communities offer alternative ways to socialise and contact other people in Ocean Village. Existing residents of Ocean Village have voluntarily managed these social media groups since 2014. The social media groups were established for different purposes: a) general groups, b) one of the residential buildings, c) exchange groups, d) a security group, and e) an activity group.

To achieve my aims and to answer my research question, I used mixed methods, both qualitative (semi-structured interview) and quantitative (online survey). I recruited 177 online questionnaire participants and 42 interview participants throughout the course of my fieldwork. The mixed method allowed me to examine my questions in considerable depth and provide a comparative perspective. During the analysis period, I used thematic analysis to analyse my data. The following sections emerged from my data in terms of the role of social media for the creation of place and belonging in relation to different tenure groups.

SOCIAL MEDIA GROUP(S) AND PERSONAL PREFERENCES

Participating in Social Media Groups

In this section, I will illustrate the role of social media groups in creating a community atmosphere and relationship. It is important to realise the function and importance of social media groups for different tenure groups. In these sections, I will focus on online atmosphere in particular to understand online participants' feelings and actions towards other people in Ocean Village.

Table 1. How satisfied are residents and landlords with the "Community Relationship" in Ocean Village?

	Owner-occupier	Tenant	Landlord	Total
Fully satisfied	20.9% (19)	21.1% (16)	25% (2)	21.1% (37)
Somewhat satisfied	71.4% (65)	59.2% (45)	75% (6)	66.3% (116)
Completely dissatisfied	7.7% (7)	19.7% (15)	0% (0)	12.6% (22)

Source: *Own Survey, N: 175.*

Table 1 gives a summary of the answers to my online questionnaire. It is apparent from the table that owner-occupiers are more satisfied than tenants in terms of the community relationship in Ocean Village. While 71.4% claim to be somewhat satisfied, only 7.7% of the participants defined their feelings towards the community relationship as those of complete dissatisfaction. Additionally, landlords are more positive than owner-occupiers and tenants about the community relationship in Ocean Village. Tenants are the least satisfied with the community relationship within their living area.

Socialising

Socialising with social media groups, one of the most popular aspects emerged from participants' answers. Besides that there are different views about this situation in the literature. To illustrate, the new technology of the internet is contributing to globalisation, accessibility, and the level of networking worldwide, though it could possibly be harmful to local social solidarity.[16] However, the internet enhances communication between people, such as friends or relatives, who live in different places around the world.[17] The internet and social media contribute to building relationships both online and offline, but particular cases or local aspects must be considered in order to analyse the influences of the internet and social media in their entirety.[18] In this context, the examples from my fieldwork below are useful in terms of the variety of results and relationships they simultaneously offer in terms of socialising. One of the young male student tenants stated:

> "We have a Facebook group, which is basically an active platform for the people to communicate…There is quite a lot of engagement on there, I think. It definitely holds more relationships *(within Ocean Village)."*

Similarly, one of the young professional male owner-occupiers said:

> "I use the internet to find people who share interests or share ideologies and use those two."

In the same way, one of the landlords who had previously lived in Ocean Village as a tenant and owner-occupier and still had connections with his former neighbours said:

> "We are living in apartment block now. For example, I would not recognize my next-door neighbour, if I see him in the street. Where is in Splash, they have resident Facebook group. They always going drink once a time in each month. They all friend."

Some participants like to socialise in Ocean Village. They use different means of succeeding in this aim, and use online communities to contact other people. Social media offers all tenure groups the chance to interact with people, both locally and globally. This means of communication depends on personal interest and preference. All tenure groups stated the importance of social media for their socialisation. Therefore, personal interests and preferences affect the ways of belonging in these groups.

Accessing and Sharing Information

Accessing and sharing information is another important reason for participating in social media groups. Initially, participants like to familiarise themselves with the place of Ocean Village through its online communities. This may be noted as being an important step in place making. For example, one of the older, non-British male owner-occupiers said:

> "We have a Facebook group. Some people send us messages. Very nice… These messages are about…If someone makes noise around us, if someone did not park his or her car properly in

> the parking area. Communication. Just knowing what is going on in the area…It is friendly, mostly informative."

The residents of Ocean Village (both owner-occupiers and tenants) discover and share information from the appropriate Facebook groups. The examples represent different ways of place making and maintenance for residents. For the maintenance of place and community, people need to create a certain familiarity with their living environment.[19] In this, these online groups contribute to the creation of place, online, for both owner-occupiers and tenants. However, people do not have to create relationships between each other and live in Ocean Village to become a part of these online communities.

In this respect, one of the middle-aged British male tenants said:

> "It is my only interaction with people here. Maybe it is a bit bizarre, but I am very comfortable with the technology, social media. It is just an extension of what I do, another aspect of my life... It has a different relationship. I can find out news from social media, what's happening here, in the area, in the building. In a way, I would not find out any other way because I am not involved with the local committee, resident group, or whatever. So, I can watch it passively as an observer, but not be involved."

In the same way, one of the landlords, who will retire in a few years and is then planning to move to Ocean Village, said that:

> "I am following it, because I am interested to see what it will be like, when I move in there."

These examples illustrate the function of social media for all tenure groups in terms of accessing and sharing information. While they are actively using social media groups to access information about their living area, they either improve or ignore their connection with the offline community and social life in Ocean Village.

Convenience

Convenience is another aspect of social media groups in Ocean Village. According to Elias and Scotson, the participants can be divided into two groups; namely, long-established residents and newcomers[20]. In the same way, the connection between different groups in the same neighbourhood is related to the length of time they have lived in, and feel a certain nostalgia for, their area.[21] The convenience of online communities is another reason to participate in them without time and place limitations. Even one of the young professional non-British male owner-occupiers said that:

> "People can interact both through social media and the local facilities in Ocean Village. Obviously, we cannot deny its role. It plays a role not only for Ocean Village, but around the world…Keeps people in touch and interactive, I cannot say it is negative. If you are travelling or away from Ocean Village, you can easily communicate with people who are in Ocean Village"

In the same way, a female short-term tenant, noted the function of social media from her perspective in terms of its convenience:

> "I think we are more interactive with the help of social media. Because, literately, we cannot text everyone and ask for a solution to something. But on social media, you can just ask and whoever has an answer can just put it on. I do not think you reach as many people on face-to-face or with texts."

A strong relationship between long-term residents and recently arrived residents has been reported in the literature. According to these well-known studies, the length of stay in a current residence leads to a striking difference between people in terms of creation of social relationships. However, as the interview participant noted, people could easily participate in their online communities without restriction after moving to Ocean Village. Contrary to the existing literature, the length of time they have lived there does not create any kind of barrier for them, even if they are travelling.

Non-Participation in Social Media Groups

While some people are happy to join the online communities in Ocean Village, others avoid doing so. In this section, I will focus on the reasons underlying this decision in order to clarify the impact of tenure status on participation in social media groups and their connection with each other. At this point, privacy and strict rules were analysed to determine the impact of tenure status on this online environment.

Privacy

Privacy is one of the most important aspects in understanding participants' reactions to the online communities in Ocean Village. According to a British, retired female owner-occupier resident:

> "Anything that involves personal information, I'm afraid we avoid disseminating it. I am on LinkedIn. I am on anything, if it is professional. But when it comes to personal stuff, none of us are. It's definitely negative, because you cannot remove your information once it's on there. Privacy. Basically, privacy is a very big issue."

In addition, interestingly, a young British gay man, and owner-occupier, stated his preference was to avoid joining these groups due to his sexual orientation:

> "I am trying to minimise my social media presence…I try to passively consume. I am not going to be a member. I am just sourcing, because I have a very unique name. It makes it really difficult to control the security of your online presence, especially when, as a member of a minority group, you want to keep everything secret."

The current literature invariably discusses elective and selective belonging in terms of offline communities and their relationships.[22]. However, the above examples illustrate the fact that people have preferences in terms of joining or avoiding specific online community environments. As one of the quotations showed, one person, while being happy to use LinkedIn, avoids using Facebook because of privacy issues. Here, privacy, similar to elective belonging in the use of the internet, but getting more professional during the use of internet is representative of the participant's selective belonging rather than their elective belonging. As the above examples demonstrate, this situation occurs without the need to consider residential status. In light of these examples, it is clear that people from different backgrounds (i.e., age or gender) avoid participating in online communities either to socialise or to gain access to more information about their area.

Strict Rules in Online Groups

Lastly, rules and regulations influence people's views and actions regarding specific social media groups. This situation can influence their decision to avoid participating in the online communities in Ocean Village. In this regard, when a middle-aged male tenant explained his reasons for creating a private WhatsApp group with his close friends in Ocean Village, he stated that:

> "Facebook groups are basically edited by that guy who controls the group, so you cannot say what you are thinking, actually, because otherwise you can be removed from the group... it feels too controlled."

In the same way, one of the owner-occupiers, a male, stated that:

> "Someone around who is the administrator. I do not know who this person is, this administrator. But there are certain rules. If I want to stick some ad. I saw many times, someone try to advertise, talking about a landlord, selling certain staff. Using social media to advertise. Then the administrator highlights the rules. Social media is a focus on social life, not advertising."

The rules and atmosphere in online communities influence whether people engage with their community in different ways. While there are problems, the owner-occupier resident still continues to use these social media groups. However, in avoiding controlling Facebook groups, they can create new and more independent online communities (for instance, through WhatsApp).

CONCLUSION

In conclusion, social media groups offer tenure groups a new way to create their place and represent their belonging, both elective and selective. Residents and landlords in Ocean Village have various motives for joining, or avoiding, the various social media groups available to Ocean Village residents. However, when they explain their reason(s) (i.e., socialising, privacy, accessibility or privacy) for either avoiding or joining these communities, different tenure groups represent a variety of responses. While the above examples show some similarities to studies in the current literature in terms of the preferences of tenure groups, in this case personal preferences and interests play a key role in whether to participate or avoid social media groups. The last two sections illustrate that age and generational differences also influence the level and type of connections and interactions within social media groups. While young people more inclined to use social media, older people use it less in their daily life and in connecting with other people in Ocean Village.

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LABOUR PRODUCTIVITY IN THE UAE CONSTRUCTION AND HOUSING SECTOR

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INTRODUCTION

Productivity is the efficiency in the process of transforming inputs (i.e. Labor and capital) into outputs (i.e. goods and services). Thus, productivity growth implies the ability and capacity to produce more goods and services from the same amount of inputs i.e. labor, capital, land, energy, etc. So, improved productivity can generate higher incomes, better goods, services and living standards. By implication, education and training can improve the quality of labor force which constitutes a key determinant of growth in productivity[i].

Labor productivity of a country is measured by the amount of income or GDP produced by one hour of labor (rate of GDP per hour of work). It is important to make clear that all officially acknowledged finished goods and services (the total output of goods and services within a country irrespective of who owns them) have a market value and the total of these in a given period is the country's Gross Domestic Product (GDP)[ii,iii].

Growing labor productivity can be interpreted through economic growth (real output or long-run aggregate supply), international competitiveness and efficient production of goods and services. It could also be interpreted through rising living standards in a country. A country's standard of living is often a function of its GDP per capita. However, in macroeconomics there are three principal determinants of economic growth and these are improved labour force, increased capital stock, and improved technology. The quantity and quality of these determinants that is available for production define whether economic growth increases or decreases. As a rule, economic growth will occur when the aggregate supply function of these determinants increases in quantity, quality or both.

It is a well-known fact that labor force is significant to economic growth. The level of output will increase if the size of labor force increases (and nothing else changes). Labor force may increase due to growing population, changing attitude to work or immigration (especially when immigrants often work harder and contribute far more than locals to output). Economic growth (increase in real GDP or long-run aggregate supply) can, therefore, change due to the size (quantity) of the labor force. But labor productivity is about the quality of labour force and more often than not a function of incentives, skills, education and technology[i]. Similarly, the quality and quantity of capital stock available significantly influence economic growth (GDP)[i, ii,iv]. Thus, when a sizeable proportion of GDP is invested in new Plants, machinery and enabling infrastructure, there is a higher tendency for economic growth or increase in real output (long-run aggregate

supply). With better facilities and tools, the quality of output increases and this indicate a strong relationship between labor productivity and capital stock. Technological advancement or the rate of adoption of new technology is the third primary factor of economic growth or increase in real GDP (aggregate supply). But adoption of new technology and innovative schemes to boost and promote business is more likely in a competitive environment and slow in a noncompetitive and protective environment. So, governmental policies which deemphasize protectionism and monopoly of inefficient local industries and restrictive practices may lead to a much faster growth rate[i].

Thus, one could argue that country's productive potential is considerably dependent on the magnitude, competence (quality) and attitude to work of its labor force; the proportion of invested GDP over a long period (magnitude and quality of capital stock); and the rate of adoption of new technology.

In the UAE, capital productivity (ratio of GDP to capital stock) considerably surpasses its labor productivity (especially in construction within the housing sector) and the country's technological access and advancement; which slightly presents an imbalance economic growth in macroeconomics. However, when considered by sector, labor productivity (in construction within the housing sector) is low when compared to the oil, finance and transport and manufacturing sectors[v]. Previous studies have shown that total labor productivity for the Gulf Cooperation Countries (GCC) has witness considerable decline in recent years[vi] and the recent global financial meltdown and its negative impact on construction and the property market have not helped matters either. This is unsurprising because productivity measures the efficiency of the production of goods and services. Invariably, when resource input is low compared to output, efficiency is high. In the construction business, the low input could be due to job cuts/lose or improved technological advancement. Certainly, this is not the case in the UAE as there are enough jobs but technological evolvement is weak as most construction projects are labor-intensive and use basic tools, basic craftsmanship and basic equipment. Low productivity in construction within the housing sector increases the dearth or shortage of low cost and sustainable housing. Less supply of housing in a country with a significant shortfall of sustainable and low cost housing means higher demand, price rise (cost) with its attendant problems of social exclusion and affordability for the average poor. Colliers International Report in 2014 emphasized that there is significant evidence to support the claim that "an affordability gap" exists in the current Dubai housing market, and there is a disparity between the demand for and supply of appropriate mid-market housing (housing that is affordable for a household in relation to its income)"[vii]. In a seeming cyclic style, this shortfall now impacts on productivity; just as productivity had initially impacted on the shortfall in production of low cost and sustainable housing. Affordable housing is a global phenomenon and particularly not peculiar to the UAE; nevertheless, it is evident globally that millions of families are financially over-stretched by housing costs and subsequently compelled to occupy inadequate housing which often undermines or compromise basic health and safety. Adequate and affordable housing is a universal human right and should be at the heart of urban policy. Affordable housing must possess the following features: structural stability, use of sustainable and good quality materials; basic services: light systems, water, ventilation; sanitary fixtures, doors and windows, etc. It should also provide adequate privacy, car park space, and lesser running costs than typical housing[viii].

But productivity is about working smarter i.e. using efficient and effective techniques to produce marketable goods and services, allowing more to be produced with the same amount of effort. So, an improved working environment, higher skilled workforce, innovative culture and technology will produce higher-value-added products and services that are worth more.

Although improving labor productivity in any sector is multi-faceted, this paper aims to identify major perceived external factors affecting labor productivity in construction within the UAE housing projects through relative importance ranking procedure using a Severity Index in Matrix Order (SIMO) model[ix].

METHODOLOGY

The methodology or principle applied in this study is quantitative and centers on research survey. Quantitative research is the method by which data is collected and presented in a statistically quantified order to sustain or controvert a subject matter[x],[xi]. However, the questionnaire used in this study was informed by the information gleaned from a pilot study (both literature and preliminary fieldwork).

Judgmental sampling technique was used for the major fieldwork of this investigation. Adopted sample size was 35, and the target sectors were contractors, consultant and clients. Five firms were selected by judgmental sampling for each of these sectors (see Table 1 for Fieldwork sample frame below).

This sample size was adopted purely from an experiential point of view i.e. the nature of the case-study (the difficulty of finding respondents in UAE who are willing to share information despite the guarantee of anonymity); logistical and financial reasons. Under these circumstances, the size of the sample becomes a function or dependent on 'what is readily available' or convenient for sampling if the research is to progress. The difficult with this type of sampling and sample size is the fact that it has a slightly weak statistical power due to wide confidence intervals or the tendency for high error in statistical prediction and hypothesis testing and the fact that the selection wasn't random or unbiased. Such tendency for higher error can impact significantly on the validity of statistical outcome in inferential statistics; which is very different from the basic non-parametric descriptive statistics (ranking) used in this study. Descriptive statistics simply pronounces what the data shows in manageable and acceptable format. Whereas inferential statistics infer or outspread conclusions beyond the immediate data. In this study, the authors simply intend to describe what the data shows not extending its conclusions beyond the immediate data (through the statistical/empirical model for the purpose of predictions).

Often for prediction or extending conclusions beyond the immediate data will require a random selection of respondents and a 95 % (or more) symmetric confidence interval is required (i.e. the sample population mean within this interval, or the sample has a 95% (or more) 'chance' of being a true representation of the surveyed population). The implication here is that at least a minimum sample size of 385 to 400 is required. Such size would be very difficult to achieve in the UAE; apparently far-off the financial resource and logistical capacities of the authors (or researchers).

These respondents (participants) are stakeholders in their various sectors, and they were selected by judgmental sampling, purely because of their experience in the field of housing construction. The designations of respondents were project managers and senior resident engineers for contractors, project engineers for consultants and supervisors for clients. The means of data collection was using questionnaires, and the total response rate was 80 percent (28 received out of 35 distributed). See Table 2 below for the breakdown of distributed questionnaires and responses.

The questionnaire was structured into five sections. Section 'A' comprises some personal questions concerning willingness to respond to the questionnaire; designation of the respondents; years of experience in the construction field; type of activity and number of employees working in the firm. In section 'B', respondents were asked to rate both external and internal factors that influence labor productivity in

construction within the housing sector; then they were to rank the factors that affect labor productivity amongst the workforce. In Section 'C', respondents were asked to rank those perceived factors responsible for declining labor productivity in the UAE. In section 'D' and 'E', they were asked to rate some recommended ways of improving labor productivity and some perceived benefits from labor productivity improvement.

However, this paper only analyses those major external factors affecting labor productivity in section 'B'. The analysis was carried out using the Severity Index in Matrix Order (SIMO) model[v1].

Table 1. Fieldwork sample frame

Sectors	Number of firms	Participants per firm	Total Participant per sector
Contractors	5	4	20
Consultant	5	2	10
Clients	5	1	5
Total	15		35

Table 2. Distributed and Received Questionnaires Sample Frame by Designation

Sectors	Designation	Questionnaire distributed	Questionnaire Received	Percentage (%)
Contractors	Project Manager	10	8	36
	Resident Engineer	10	7	14
Consultant	Project Engineer	10	9	41
Clients	Supervisors	5	4	9
Total		35	28	100

ANALYSIS

The following are the seven steps employed in building the SIMO model used in this investigation:

1. The external factors influencing Labor productivity in UAE were coded accordingly: F(1), F(2), F(3),…., F(17) (see Tables 3, 4, 5, 6 and 7).
2. Ranking positions of these factors as presented in Table 4 are in decreasing order of severity accorded by respondents i.e. P1, P2, P3,..., P18 (see the second row in Table 4).
3. Each factor frequency count is entered under the various ranking positions that were accorded by respondents (see Table 4). It is important to note that any of the factors could have frequency counts in multiple ranking positions.
4. The index factors column as shown in Table 4 is derived from the inverse array of arithmetic numbers 1,2,3,.....,17 to give 17, 16, 15, 14,…,1 multiplied by the inverse of 17 or (1/17) to give 17/17=1; 16/17=0.94; 15/17=0.88;.....1/17=0.06 (see the last column of Table 4).
5. The severity of each of the factors is found when the matrix of frequency counts under the various ranking positions (i.e. 17 X 17 matrix) is multiplied by the column of index factors in the last column

of Table 4 (i.e. 1X17 matrix) (see Table 5) to give the array of severity magnitudes in the form of 1X17 matrix (first and second matrices) shown in Table 6.

6. The external factors and their severity magnitudes above are then re-arranged in a decreasing order of severity i.e. p(1) > p(2) > p(3) >,…., > p(18) (see Table 7).
7. The threshold value or demarcation line is calculated by working out the statistical midhinge of Table 7.

The mathematical formats for the seven steps above are presented according to[vi] as follow:

$$F(j) = \sum_{i=1,j=1}^{i=n,j=n} \mu_{ij} \frac{\sigma_i}{n} \quad \ldots\ldots\ldots\

P(1) is the highest severity position
P(2) is the 2nd highest severity position……P(n) is the severe position
Stage 2: Threshold Value (Demarcation Line)
The Threshold value which is the Midhinge in the matrix of equation (A)
$= ½[h_1 + h_2]$.....(C)
$D_1 = ¼[n + 1]$.....(D)
$D_3 = ¾[n + 1]$.....(E)
Where
h_1 is the corresponding value of D_1
h_2 is the corresponding value of D_3
n is the total number of observations under consideration in equation (B)
D_1 and D_3 are within the matrix of equation (B)
Rules for D_1 and D_3 are as follows [xii, vi]:

- If D_1 or D_3 is an integer, the numerical observation or item corresponding to the position of that integer in the matrix of equation (B) is chosen for either D_1 or D_3.
- If D_1 or D_3 is halfway between two integers, the average of the corresponding items or observations is chosen.
- If D_1 or D_3 is not an integer or halfway between two integers; then the resulting value should be approximated to the nearest integer, and the corresponding item or observation is chosen.

This threshold value defines the demarcation line between major factors and the minor factors (see Tables 7). Using Table 7 for example:
$D_1 = ¼ (17 + 1) = 4.5$ and $D_3 = ¾ (17 + 1) = 13.5$
N.B. D_1 and D_3 are halfway between two integers.
Therefore, using the second itemized rule for D_1 or D_3 above: $D_1 = 4.5$ and $D_3 = 13.5$.
Average of corresponding items to D_1 in Table 7 = $h_1 = ½ (22.52 + 19.73) = 21$ and
$D_3 = h_2 = ½ (9.1 + 7.34) = 8$.
Threshold value = $½ [h_1 + h_2] = ½ [21 + 8] = 14.5$
Thus, the demarcation line is between the magnitudes P (8) = 17.21 and P (9) = 9.71 (see Tables 7).

RESULTS

Table 3. Ranked Frequency Positions of External Variable Factors influencing Labor Productivity

Variable Factors	**Ranked Positions Frequencies of Variable Factors**																	**Severity Index**
f (j)	P(1)	P(2)	P(3)	P(4)	P(5)	P(6)	P(7)	P(8)	P(9)	P(10)	P(11)	P(12)	P(13)	P(14)	P(15)	P(16)	P(17)	**S.I.**
f1	1	0	0	0	0	0	0	0	0	2	0	1	0	1	2	5	16	1
f2	0	1	0	0	0	0	0	0	0	0	3	1	1	1	7	11	3	0.94
f3	0	0	1	0	0	0	0	0	0	2	2	2	2	6	9	2	2	0.88
f4	0	2	0	1	0	1	6	13	4	0	0	0	0	1	0	0	0	0.82
f5	2	0	1	0	1	0	6	5	12	0	0	1	0	0	0	0	0	0.77
f6	0	1	0	0	0	1	0	0	0	2	4	2	8	6	2	1	1	0.71
f7	0	0	0	0	0	0	1	0	0	3	4	4	8	6	0	2	0	0.65
f8	18	2	1	3	1	0	0	2	1	0	0	0	0	0	0	0	0	0.59
f9	1	0	0	0	0	0	0	0	1	4	1	11	3	1	4	1	1	0.53
f10	0	0	2	0	2	2	10	4	7	1	0	0	0	0	0	0	0	0.47
f11	1	14	4	3	1	0	1	1	0	2	1	0	0	0	0	0	0	0.41
f12	0	6	16	1	0	2	1	0	1	0	0	1	0	0	0	0	0	0.35
f13	0	0	0	0	0	0	0	0	0	6	7	2	4	4	1	3	1	0.29
f14	0	0	0	0	0	2	0	1	0	5	6	3	2	2	2	2	3	0.24
f15	0	0	1	3	6	13	1	2	1	0	0	0	0	0	1	0	0	0.18
f16	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	17	9	0.12
f17	4	1	1	13	6	1	1	0	0	0	0	0	0	0	0	0	1	0.06

$$\begin{bmatrix} f(1) \\ . \\ . \\ f(n) \end{bmatrix} = \begin{bmatrix} \mu_{11} & . & . & \mu_{1n} \\ . & . & . & . \\ . & . & . & . \\ \mu_{n1} & . & . & \mu_{nn} \end{bmatrix} \begin{bmatrix} \sigma_{1/n} \\ . \\ . \\ \sigma_{n/n} \end{bmatrix} .....(SIMO)$$

Table 4. Result from Severity Index in Matrice Order (SIMO)

$f(1)$		1	0	0	0	0	0	0	0	0	2	0	1	0	1	2	5	16	1	4.45
$f(2)$		0	1	0	0	0	0	0	0	0	0	3	1	1	1	7	11	3	0.94	5.81
$f(3)$		0	0	1	0	0	0	0	0	0	2	2	2	2	6	9	2	2	0.88	7.34
$f(4)$		0	2	0	1	0	1	6	13	4	0	0	0	0	1	0	0	0	0.82	17.34
$f(5)$		2	0	1	0	1	0	6	5	12	0	0	1	0	0	0	0	0	0.77	17.21
$f(6)$		0	1	0	0	0	1	0	0	0	2	4	2	8	6	2	1	1	0.71	9.23
$f(7)$		)	0	0	0	0	0	1	0	0	3	4	4	8	6	0	2	0	0.65	9.1
$f(8)$		18	2	1	3	1	0	0	2	1	0	0	0	0	0	0	0	0	0.59	25.7
$f(9)$	=	1	0	0	0	0	0	0	0	1	4	1	11	3	1	4	1	1	0.53	9.68
$f(10)$		0	0	2	0	2	2	10	4	7	1	0	0	0	0	0	0	0	0.47	17.76
$f(11)$		1	14	4	3	1	0	1	1	0	2	1	0	0	0	0	0	0	0.41	23.5
$f(12)$		0	6	16	1	0	2	1	0	1	0	0	1	0	0	0	0	0	0.35	23.49
$f(13)$		0	0	0	0	0	0	0	0	0	6	7	2	4	4	1	3	1	0.29	9.11
$f(14)$		0	0	0	0	0	2	0	1	0	5	6	3	2	2	2	2	3	0.24	9.71
$f(15)$		0	0	1	3	6	13	1	2	1	0	0	0	0	0	1	0	0	0.18	19.73
$f(16)$		1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	17	9	0.12	4.05
$f(17)$		4	1	1	13	6	1	1	0	0	0	0	0	0	0	0	0	1	0.06	22.52

Table 5. Results arranged in descending order of magnitude

$P(1)$	$F(8)$	25.7
$P(2)$	$F(11)$	23.5
$P(3)$	$F(12)$	23.49
$P(4)$	$F(17)$	22.52
$P(5)$	$F(15)$	19.73
$P(6)$	$F(10)$	17.76
$P(7)$	$F(4)$	17.34
$P(8)$	$F(5)$	17.21
$P(9)$	$F(14)$	9.71
$P(10)$	$F(9)$	9.68
$P(11)$	$F(6)$	9.23
$P(12)$	$F(13)$	9.11
$P(13)$	$F(7)$	9.1
$P(14)$	$F(3)$	7.34
$P(15)$	$F(2)$	5.81
$P(16)$	$F(1)$	4.45
$P(17)$	$F(16)$	4.05

Table 6. Severity Index Results and Demarcation Line

$P(1)$	$F(8)$	*Enabling technology and logistics*	25.7
$P(2)$	$F(11)$	*Procurement of material & Equipments*	23.5
$P(3)$	$F(12)$	*Adequate technical skills and services*	23.49
$P(4)$	$F(17)$	*Financial crisis*	22.52
$P(5)$	$F(15)$	*Health and safety regulations*	19.73
$P(6)$	$F(10)$	*Environmental factors (climate, Weather conditions)*	17.76
$P(7)$	$F(4)$	*Public sector's impact*	17.34
$P(8)$	$F(5)$	*Stakeholders' impact*	17.21
$\rightarrow\rightarrow$	$\rightarrow\rightarrow$	$\rightarrow\rightarrow\rightarrow$ Demacation Line $\rightarrow\rightarrow\rightarrow$	$\rightarrow\rightarrow\rightarrow$
$P(9)$	$F(14)$	*Site logistics (accommodation, transportation, site distance)*	9.71
$P(10)$	$F(9)$	*Work variations*	9.68
$P(11)$	$F(6)$	*Urgent situation work in construction*	9.23
$P(12)$	$F(13)$	*Organization structure*	9.11
$P(13)$	$F(7)$	*Site and construction constraints*	9.1
$P(14)$	$F(3)$	*Inadequate planning*	7.34
$P(15)$	$F(2)$	*Ambiguity (lack of clarity) of work*	5.81
$P(16)$	$F(1)$	*Lack of Information*	4.45
$P(17)$	$F(16)$	*Nationality and immigration*	4.05

Table 7 Major Factors in descending order influencing Labor Productivity in UAE

$$\begin{bmatrix} F(8) \\ F(11) \\ F(12) \\ F(17) \\ F(15) \\ F(10) \\ F(4) \\ F(5) \end{bmatrix} = \begin{bmatrix} Enabling\ technology\ and\ logistics \\ Procurement\ of\ material\ \&\ Equipments \\ Adequate\ technical\ skills\ and\ services \\ Financial\ crisis \\ Health\ and\ safety\ regulations \\ Environmental\ factors\ (climate,\ Weather\ conditions) \\ Public\ sector's\ impact \\ Stakeholders'\ impact \end{bmatrix}$$

DISCUSSION

Enabling technology and logistics were identified by respondents in this research as the most severe factor impacting on Labor productivity in UAE construction projects. It is obvious that to keep up the pace of development in comparison to other sectors there are needs for greater awareness and appreciation of contemporary technologies and advances in logistical techniques. While the UAE construction industry may seem to be typically aware of relevant technologies and logistics, there is no evidence to suggest that they are well appreciated or integrated into mainstream construction projects. This inadequacy in the UAE is gravely impacting on labor productivity in construction, particularly in areas of efficiency and effective delivery of projects. At the moment, in the UAE construction industry, there is an unprecedented level of unskilled labor from the Indian subcontinent (the southern region of Asia). This is despite there being enormous resources at the disposal of the country for the acquisition of the best technology and logistics. Poor logistics (equipment, materials, and tools) management logically results in project delays and cost escalations. This is because equipment, materials and tools account for over three quarter of the average construction project budget[13,14]. So it isn't surprising that project delays and cost escalations are common occurrences in most UAE construction projects and this suggests poor logistics management and ineffective delivery processes. Again, one can argue that the country's construction labor productivity is low and uncompetitive despite huge investment in the construction sector. If Labor productivity is considered as being the rate of GDP on the numbers of hours worked, any reduction in the number of hours worked without changes in total output would imply an improvement in labor productivity. But this can only be possible when there are enabling technologies and efficient logistical systems to compensate the shortfall in human working hours. A shortfall in working hours could be due to job cuts, which is certainly not the case in the UAE construction sector due to the regular influx of cheap, low-skilled migrant workers from India, Pakistan, Nepal, Bangladesh, etc. In fact, the numbers of working hours in the construction industry is increasing by the day resulting in low productivity in the UAE.

Procurement of materials and equipment was rated second amongst major factors impacting on construction labor productivity in the UAE. Procurement is the process of acquiring goods, works and services necessary for carrying out a project, excluding consultancy services[15]. Works in context refers to the acquisition and installation of equipment and materials but it also encompasses all construction, reconstruction, demolition, repair or renovation of structures, site preparation, excavation, erection, building, decoration and finishing, as well as services incidental to construction such as drilling, mapping, satellite photography, seismic investigations and similar services provided pursuant to the procurement contract. Investment in equipment (machinery) and materials formed an indispensable

part of the previous factor (enabling technology and logistics) identified as the most important factor in this study and discussed in the preceding paragraph. Without procuring or acquiring the right facilities and materials, the aspiration for advanced technological and logistical frameworks is futile. This is particularly true since application and dispersal of the latest state-of-the-art construction technologies and logistics obviously boost labor productivity. This is very evident in countries where higher equipment and material investments impact on labor productivity and generate higher productivity growth rates. If a comparison was to be made with countries like the USA, Japan, United Kingdom, Turkey and even Saudi Arabia for instance, the UAE investments on equipment (heavy construction machinery) and materials as a percentage of Gross Domestic Product (GDP) will be lower and ineffective in terms of competitiveness and growth in the construction sector.

Adequate technical skills and services were the third major factor identified by respondents in order of severity impacting on UAE construction labor productivity. This factor is synonymously related to both factors previously discussed above and presented in order of severity, which was: "enabling technology and logistics"; "procurement of materials and equipment". Enabling technology and logistics requires the right frameworks, materials, state of the art equipment (machinery), and much evolved technically-skilled workforce for application and sustainability purposes. At the moment, foreigners comprise about 99 percent of the private sector workforce in the UAE[16]. However, most of these jobs, especially those in the construction industry are very low-skilled and often characterised by poor remuneration and working conditions. This is perhaps not surprising because the *'Emiratis'* (nationals) are naturally very proud people and show a reluctance to take up low-skilled or basic labor intensive jobs. The consequent low-skilled labor influx, also the major result of immigration policies designed to compensate for the shortfall created by the prevailing social attitude, has severely impacted on the country's labor productivity. This is true because it has become much cheaper and attractive in the UAE to employ, acquire or secure a foreign workforce than devoting resources to capital intensive equipment/facilities and logistics that could improve construction labor productivity. Even the global financial crisis has not helped matters; the immigration of low-skilled labor is still ongoing.

The global financial crisis was the fourth most significant factor revealed in this investigation which impacted on construction labor productivity in the UAE. As stated previously, labor productivity is a function of Gross Domestic Product (GDP) and productive hours of work. Therefore what affects GDP significantly affects labor productivity. Further, the apprehensions of the global economic downturn (like the financial crisis), slow down businesses and potentially reduce the market value of goods and services. This directly impacts on construction and its labor productivity. For instance, the emirates of Dubai in the UAE is currently witnessing a slowdown in economic growth and plummeting asset prices which has been further exacerbated by GCC countries declining oil prices and demand. The UAE is worst hit amongst the GCC countries during this crisis given its close links with global equity and credit markets[17].

The declining value of assets and oil prices and a decline in demand for both, reduced assets' marketability (liquidity) conditions and reduced investors' confidence. Global liquidity shortages caused in part by Lehman's collapse in September 2008 further intensified the GCC financial sector imbalances. This situation severely impacted on Dubai in particular and the UAE construction industry in general.

The fifth most significant factor identified in this study that influenced labor productivity was health and safety regulations. Productive hours can be seriously reduced if a workforce is unsure about health and safety issues. When accidents occur on site due to poor adherence to health and safety, time is wasted both on site and in the time taken for staff to return to work after any injury. In the absence of

enabling technology and advance logistical frameworks, the amount of real GDP will greatly depend on manual working hours. So to some extent, poor adherence to health and safety could impact on a country's labor productivity. In the emirates of Dubai, for instance, there is evidence to suggest that some construction companies do not adequately adhere to health and safety regulations notwithstanding the cosmetic prevalence of 'safety first' signage, especially at the entrance to construction sites. The laborers themselves are often complicit with this practice in their desperation to find work and do not prioritise their health and safety. This is clear anecdotal evidence of the degree of poverty in some countries within the Indian subcontinent and how the quest for survival potentially overrides rationality. The desperation reaches such levels that some of these laborers are prepared to work as usual even in adverse climatic and weather conditions.

The climatic and weather conditions factor is sixth in the hierarchy of severity identified by respondents amongst factors that influence labor productivity. Extreme weather conditions during the months of July and August in the UAE mean the maximum temperature sometimes reaches 50 degrees Celsius; this is without considering the high humidity levels in these areas. Under such conditions, productive hours are significantly reduced which directly impacts on GDP.

Another factor which impacts on UAE labor productivity is the public sector. In any country, the public sector takes responsibility for the provision of goods/facilities and services, regulations, enactment of statutory regulations, monitoring and enforcements. No doubt these responsibilities make it the most important stakeholder in any country. But it sets the benchmark for other sectors to follow. Except for climatic and weather conditions, the public sector directly influences all the other factors discussed above. Its influence significantly affects the working environment; which in turn impacts on the country's labor productivity

RECOMMENDATION

This paper recommends that an appropriate regulatory framework which encourages collaborative partnerships amongst construction firms be established. This is to create circumstances in which it would be advantageous for large construction firms to merge, pooling their resources to execute large projects within and outside the country. The right financial incentives and support packages should be provided by the government to encourage such mergers given their potential benefit to the economy by way of job creation and its direct impact on GDP. These firms are also to be encouraged to efficiently compete with other firms both within the UAE and with developed and developing nations. This is very important given the fact that landmark projects, and the multinational construction firms able to build them, are no longer the exclusive preserve of developed countries. As an example, in the latest ranking of the world's biggest contractors, a developing country like Turkey now accounts for about 33 out of 225 of the biggest global construction firms; next to China, which has approximately 52 such firms[18]. Surprisingly, only 26 of these firms originated from the US (the world's economic and military superpower). This was unheard of two decades ago; a clear indication that developed countries are now losing their dominant grip on the global construction market. Thanks to the favourable conditions in Turkey, the country's construction and building materials manufacturing firms now rank amongst the best in the world, and Turkey's GDP has witnessed greater growth than most developed and developing countries between 1980 and 2012; all attributable to the growth of its construction sector. The Turkish model incentivises, empowers and encourages the private sector; where resources are pulled together for the benefit of all.

Another recommended area of policy development in the UAE is in its greater understanding of - and participation in - the global competitive market, where an equal playing field exists, usually without heavy bias. While adhering to the spirit of collaboration, promoting activity in a healthy international

competitive environment could encourage better, more competitive practices within local, large construction firms in the UAE.
Furthermore, the UAE government could enforce a compulsory, structured human resource development program to boost its current skills gap in construction and other relevant sectors.

CONCLUSION

The success of Turkey's construction industry can also be replicated in the UAE construction industry if enough public-sector support is provided. All the factors identified in this study directly or indirectly depend on the government / public sector. An appropriate regulatory framework to incentivize and promote collaborative partnerships can only be possible and enforced through the backing of the government. Thus, the authors are of the view that the financial investments and size of the UAE construction industry is enormous and deserves to be properly regulated and supported to enhance its labor productivity. With improvements in labor productivity in the construction industry, construction projects are more likely to be completed successfully on time, to budget and the required quality standards. This, in turn, would provide a great boost to confidence in the economy and international competitiveness.[19]

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SELF-BUILT HOUSING IN HANOI: THE STUDY OF SOCIO-CULTURAL VALUES AND ITS INFLUENCE ON HOUSING DESIGN

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INTRODUCTION

Architecture is an expression of socio-cultural factors that respond to both physical protections and material needs. To support this assertion, Rapoport indicated that house form is generally based on culture to express the meaning of architecture while other relevant factors including materials, climate and technology are secondary priorities in the process of design[1]. In the work of Oliver and Rudofsky, traditional housing designs have their own characteristics reflecting harmony between local climate and cosmology of indigenous people [2,3]. Though historical development, various evident in Vietnam show that culture was a significant influence on architecture [4,5]. Therefore, the design of housing reflects the cultural aspects and lifestyles of the people. On the other hand, the lifestyles, social and politic aspects are changing overtime result in process of housing transformation[6]. This paper focuses on the process of evolution of self-built housing regarding two major factors namely cultural needs and daily lifestyles. Both factors play significant roles to create sense of community and meaning of a home design. It is argued that despite the introduction of new materials, urban regulations, policies, and construction techniques, each having great influence on city development; that socio-cultural perception and daily activities taking place in the houses still play important roles that define the sense of community.

OVERVIEW OF BACKGROUND OF HANOI

Vietnam is located in South East Asia, and the country borders with China, Lao, and Cambodia. Hanoi is situated in the North, on the South bank of the Red River delta. Throughout history, Hanoi is known as one of the most ancient cities in Vietnam. The start point of Hanoi being occurred when Ly King moved the royal citadel to Hanoi in 1010[7]. Since then, the sense of community has been identified with four main different built environments: an ancient quarter with typical shop houses that was influenced by Chinese merchants during the feudal periods; a colonial town during the period (1887-1954); a residential quarter during the central economic planning period (1954-1986); and a complex built environment since the economic reform. Apart from the residential living quarter that was planned by the government and state companies during the central economic planning period, in all the other urban residential areas are mainly filled with self-built housing. Today, self-built housing are still contributing approximately 70 percent of housing production in Hanoi city[8]. Therefore, this study compares and focuses on characteristics of self-built housing, including traditional town houses, colonial town houses and contemporary houses. The concept of

self-built housing in this study is defined as: a house that is funded by the householders themselves and the owners invest and manage the processes of design and construction to meet their own living needs.

Figure 1: The development of Hanoi: top left: feudal period; top right: colonial period; bottom left: central economic plan period; bottom right: since the economic reform(Drawn by Ngo Kien Thinh based on historical maps, satellite map in 2016, photo analysis and site observation)

EVOLUTION OF SELF-BUILT ARCHITECTURE

The traditional urban housing

The characteristics of traditional Vietnamese house reflect cultural needs, geography and nature. Hanoi located in maritime route from China to other Eastern countries and later, Western countries; thus, design of traditional town houses had various distinct features including functions, form and

spatial layout to adapt with living conditions in urban areas[9]. The traditional urban house is widely known as a shop-house because of two different functions: commercial area and living area. The commercial spaces including shops, storage, and workshop which are always located near the main entrance. Moreover, the shape of the building is long and narrow. There are two main assumptions about typological characteristics of urban house in Hanoi[10,11].

Firstly, the housing plot is formed following the traditions of Vietnamese people. Children always have to move out of the family home after marriage and build a new house for themselves except for the oldest son who is responsible for taking care of ancestral worshipping and his parents in their old age. Also, parents would generally endow their son with their own land and parts of their business. In Hanoi, this distribution commonly occurred around the historical quarter and traditional residential areas. Over time, an original parent's house would be separated into smaller houses. Furthermore, as a traditional way of living, the family business is generally passed from generation to generation. Hence, each house had at least one small frontage as a shop front to inherit the family business. Consequently, the width of house became smaller and smaller.

Secondly, another hypothesis about the building typology stems from economic purposes. As the starting point, the old quarter was the marketplace and trading area. Each house always had at least one small frontage for commercial purposes. The frontage spaces in traditional houses were valuable in term of attracting customers to shops on the ground floor. Therefore, during the feudal periods, building tax was calculated according to the width of building. As a result, the small width of traditional house could avoid large amounts of tax. Nevertheless, the length of building tends to increase opposite to the respective width.

In addition, the spatial organization of traditional house is characterized by clear division of space and geometrical rules. A house generally has two floor levels: a ground used for public purposes and an upper floor used for private family spaces. Living spaces are linked by several courtyards, and as a result of Vietnamese culture, the layout of building should provide enclosed form, allowing the building itself to be filled with life energy. People in Vietnam believed that life energy was an essential element, according to Feng Shui, that was responsible for the quality of the residence. The ideology of Feng Shui principles was popular in traditional society and was followed to create a harmonious environment to bring life energy into the buildings[12]. However, in reality, it is usually difficult to obtain an ideal site in the towns and cities. Consequently, in order to achieve a desirable living environment, the form of the courtyard house has been selected as symbolic ideal model in urban spaces. Although the size and shape of courtyard might vary in different houses, the courtyard, the enclosure of space by building and wall always represent the heart of dwelling units. The Vietnamese houses always surround their courtyards with main living spaces or walls to create sense of privacy, security, control of noise and dust, and to offer light and air.

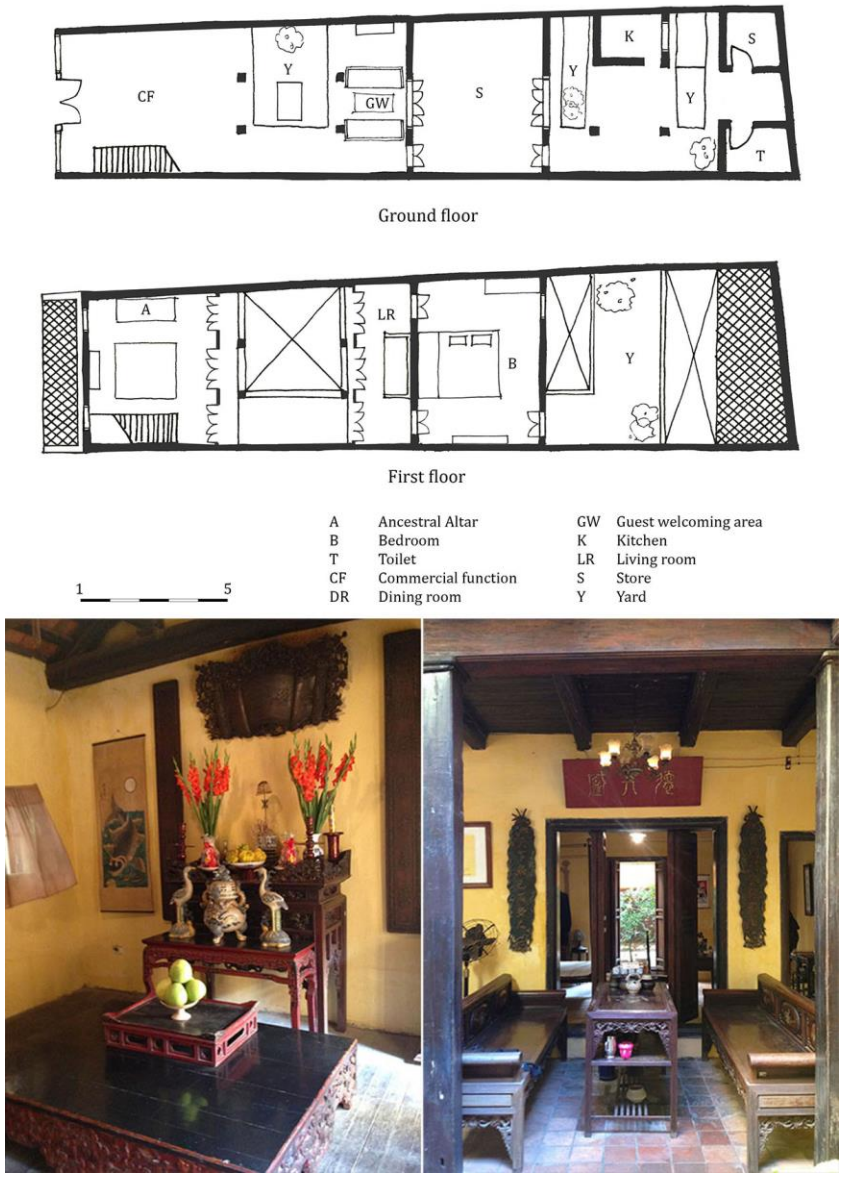

Figure 2: Example of traditional town house plan in 87 Ma May street (Drawn and images by Ngo Kien Thinh). Top: housing plan; Below left: ancestral altar; below right: family living space

In addition, under the Vietnamese culture, ancestral worship is significant[13]. Thus, the location of the ancestral hall always has the highest priority in the process of design [14]. The ancestral hall is generally located in clearest space in the house following Feng Shui principles.

Housing during colonial period

During colonial periods, the French attempted to develop Hanoi as a replica of Paris and started the processes of modernization and globalization, and new planning, landscape and architecture had generally followed Western principles[15]. As a result, these changes in political and social factors have impacted on housing form[16]. Land parcels were planned and shaped more geometrically in

rectangular shape. Town houses generally applied new materials and construction technologies whilst the façade was copied from French architecture. Nevertheless, the function and spatial organisation of the building was heavily influenced by old custom and cultural aspects that often seen in traditional housing designs.

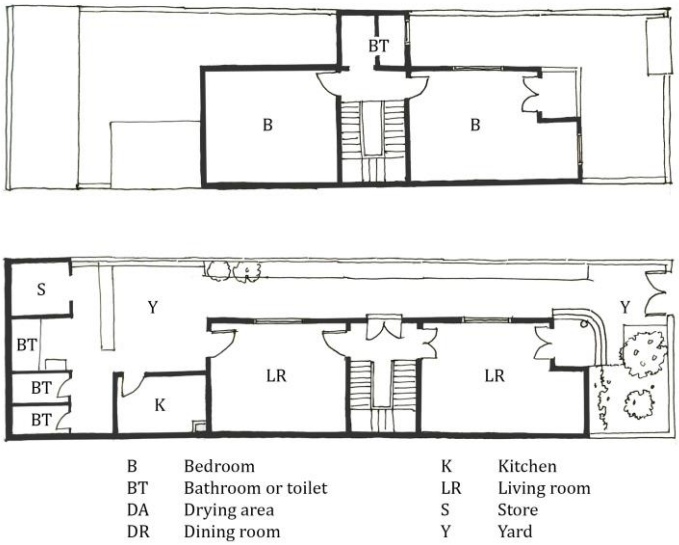

Figure 3: Examples of the colonial town house plan in Hanoi during colonial period (Adapted from Balderstone & Logan)[17]

Contemporary self-built housing

Since the economic reform in 1986, Vietnamese urban has experienced with changes in built environment[18]. During the period between 1954-1986, Vietnam applied a centrally planned economy. Every production was distributed regarding rank and number of working year of employees. In addition, state fully controlled housing production and popular housing type after wars was a collective apartment in living quarters. Since the reform, there are various changes in political and economic factors. The country is moving from a centralized planning to a decentralized transitional economy. Both marketization and decentralization have boosted the foreign and private development.

In term of social factor, census data show that nuclear family dominated the contemporary urban areas in Vietnam. For example, UN-Habitant estimated that the household size is decreased from 3.8 person in 2009 to 3.1 person per household in 2049[19]. The similar studies show that the average Vietnamese women in 1960 has a total of 6.39 children, it decreased to 2.05 children in 2012[20]. The figures show considerable demographic changes in household size and composition. However, although households have physical changes, they are still bound to traditional values and customs. In addition, although there is no need for large houses to accommodate extended families, there are higher living standards regarding living spaces.

All of those factors have contributed to the process of transformation of self-built housing. Architecture as the physical embodiment of social life has changed to adopt with new conditions. In historical urban areas (old quarter and French quarter), inhabitants often demolish the traditional houses and rebuilt new houses[21]. In addition, new self-built residential areas including urban villages, planned areas for the state employee and commercial areas are quickly dominated urban

districts [22]. Although the size of housing plot is depending on regional planning and past development, a physical characteristic of contemporary self-built house in all urban areas has identified with three to six floors with concrete structure, and the façade design is based on perception of house owners. In addition, the building density is usually very high, and in most case, house could cover 100 percent of the plot (figure 4). The physical changes come from two main reasons:

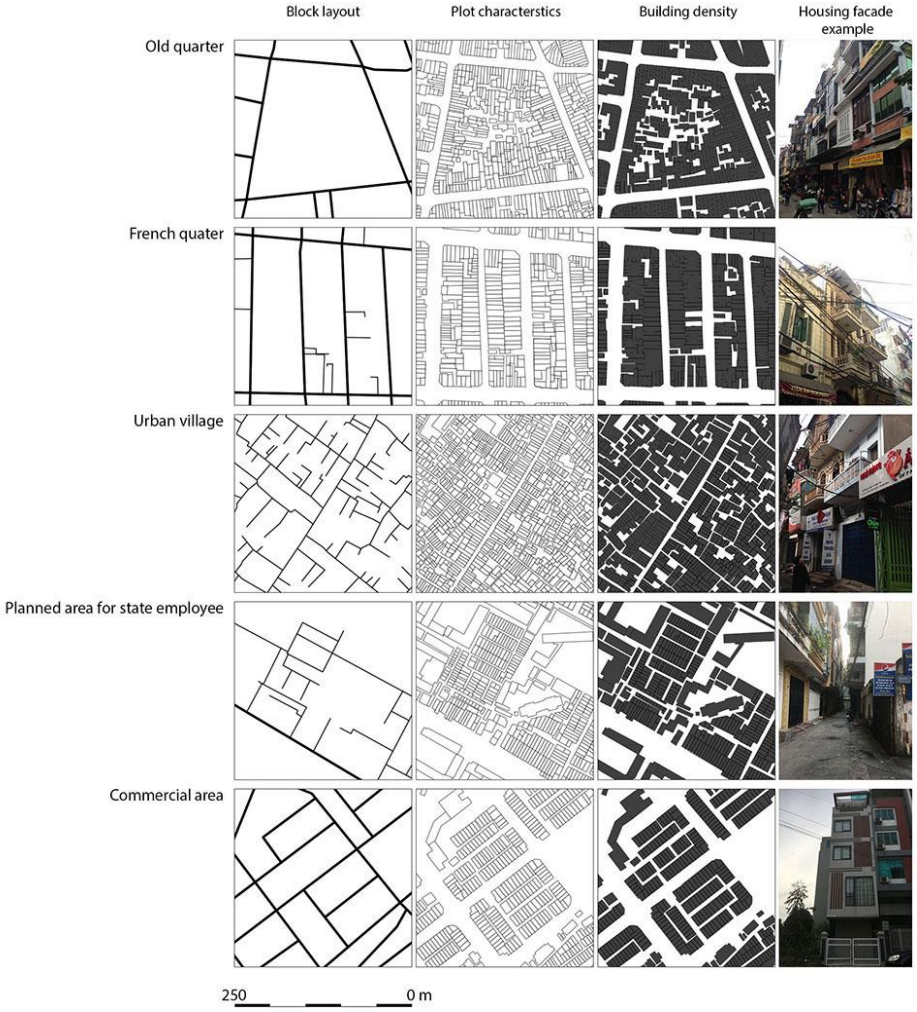

Figure 4: Overview characteristics of contemporary self-built housing in urban areas since the economic reform (Drawn by Ngo Kien Thinh)

First, due to change of built environment, land is considered to be a type of commodity[23]; therefore, the urban housing plot is expensive and most families can only afford a small plot. The only way to create more living space is to increase building area and to extend the house vertically. Regarding to building regulation, the building could cover most part of land if the plot size is too small (Table 1). As a result, the building is generally constructed with multiple stories and covered the plot[24].

Table 1: Maximum net density of land plot for housing construction[25]

Land lot area (m2)	<50	75	100	200	300	500	>1000
Maximum building density (%)	100	90	80	70	60	50	40

Secondly, the relationship between commercial area and living area are still popular in Vietnam because it supports local needs[26]. The commercial spaces help to maximize the income of house owners. Given the close relationship between living spaces and commercial spaces, any space inside the houses that is not used as living space would be transformed into a commercial area with small modification. Thus, if the family has good finance and the house is located in main streets, house owner would build the house as large and as high as possible to maximize commercial benefits[27].

In term of spatial organization (figure 5), the major spatial change for contemporary houses is a disappearance of courtyards. In traditional houses and French town houses, courtyards were frequently used to separate different living spaces. According to traditional rules, the living space was consisted of two parts: the main family living spaces and the supporting spaces. The supporting spaces, including kitchen and toilet, were located far away from living components in order to reduce the impacts of smoke and smell. On this account, the kitchen and toilet were regularly situated at back side of building, and those spaces were separated from other living spaces via a courtyard. However, in the contemporary house, a kitchen and other supporting spaces are directly attached to the main living spaces.

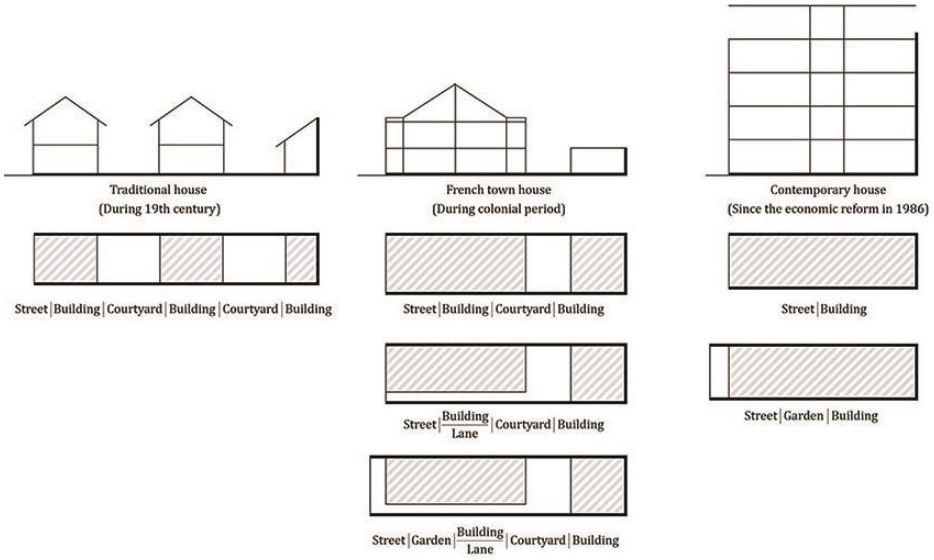

Figure 5: Architectural characteristics of urban house forms in different built environment (Drawn by Ngo Kien Thinh)

To explain these changes, it is suggested that the layout of self-built housing have reflected users' contemporary social structure and living styles. Three main reasons for spatial changes are as follows:

Firstly, the change of social structure led to transformation of housing forms. During the feudal and colonial periods, urban houses were always built by middle class, who normally had several servants [28]. Domestic work was always carried out by a maid named "*Con Sen*". By contrast, since the socialist regime started in 1954, the responsibility for domestic work shifted to family members.

Our case studies demonstrated that (figure 6), after the reform, the kitchen is directly connected with other living components to provide more convenience.

Figure 6: Examples of contemporary self-built house plans after the economic reform (Drawn by Ngo Kien Thinh)

Secondly, the development of technology and home facilities led to new requirements for living spaces. Within new living styles, modern facilities such as gas and electric stoves have replaced traditional fire stoves. Subsequently, the cooking activities became more convenient with reduced effects of smoke and smell. Besides that, the new living styles have also encouraged people to use electric devices such as electric fans, sufficient lighting and air conditioning to achieve comfort. Thus, the courtyard's role to create a boundary between supporting spaces and living spaces and for ventilation and natural lighting turns out to be less important with new living styles.

Thirdly, the family social life has changed rapidly resulting in increasing requirements for private spaces. In the traditional society, housing played a significant role for family activities and a number of open spaces were used to support traditional living styles. By contrast, people seemingly spend less time for family activities at home today, particularly the case with young people. People now spend longer time outside home to work or study in the daytime. Moreover, there is an increase in leisure and personal goods such as televisions, computers and phones that offer more alternatives that encourage use of private spaces. As a result, there are increasing requirements for more private rooms in a house rather than public space. Courtyard has become less important in design. Consequently, small sky-wells in staircase area have taken the functional role of the courtyard for ventilation.

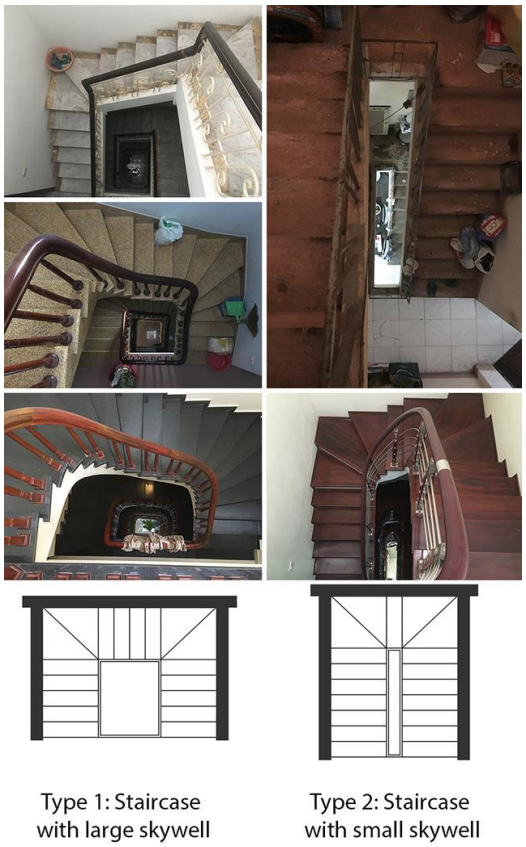

Figure 6: Different types of sky-well in contemporary self-built housing (Images by Ngo Kien Thinh)

Despite various changes in form and spatial organization, living styles of Vietnamese are still based on traditional customs. Due to various kinds of traditional activities, it is not surprising that with every Vietnamese family, no matter whether the house is large or small; the location of ancestral altar is one of the most important spaces in the houses. Thus, the ancestral alters always located in the highest place in the house or in the cleanest area in the living room[29]. Moreover, the arrangement of ancestral altar is significant because it influenced the arrangement of other furniture, such as the direction of bed.

Figure 7: Ancestral altar in different Vietnamese ceremonies (Clockwise from top left: Wedding event, Kitchen's god festival, death anniversaries and normal time)

CONCLUSION

In conclusion, this paper had critically examined the evolution of urban self-built housing in three periods in Hanoi: the traditional urban neighborhood period (during the late nineteenth century); the colonial period (1887 to 1954) and the period after the economic reform in 1986. A number of aspects, including: form, function and spatial layout were analyzed. In this study, it was argued that self-built houses have retained and involved two social-cultural aspects throughout history. First, houses have kept commercial spaces wherever is possible. Areas in the houses dedicated for commercial activities are normally at ground and facing public streets. Secondly, spatial arrangements have been designed to prioritize owners' needs in daily life. Notably, those priorities have been changing throughout history: for example, courtyards in today's houses are less important compare to those in the past. The reasons for the disappearance of courtyards include the restriction on building plot, increasing requirement of family spaces in each house, and advanced technology such as air-conditioning and kitchen facilities that became available in normal people's homes.

The findings, therefore, will be beneficial to designers, architects and planners to aid them in understanding how to integrate traditional forms, expressions and ideas into contemporary designs. The process of modernization may be associated with design evolution. There are changed relationship between supporting spaces and living spaces in traditional and contemporary house respectively. New design needs to consider the importance of cross-blending of the contemporary and traditional concepts in Vietnam. Besides that, the architect should consider the use of courtyards or other open spaces in the process of design to create a sustainable environment. In

addition, a concept of home is strongly related with ritual activities; thus, the room with the ancestral altar still plays a critical role in creating the identity of Vietnamese housing.

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ARCHITECTURE AND THE BRAIN: BRINGING HUMAN IN THE HEART OF URBANISM AND ARCHITECTURE

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RSK ARCHITECTURE

INTRODUCTION

Architecture and urbanism are not only about concrete, structures and aesthetics. It is about human, life, feelings and health. Most people live and work in/around buildings therefore professionals have a big role to play in the development, the well-being, the evolution and the state of mind of a person. Every visual element is captured by the eye and sent to the brain where the information will be treated, triggering instinctive, psychological and physiological reactions. "Our buildings arise out of our brains, and our brains – and our bodies- spend an average of 87 % of their existence in buildings. And yet, we know relatively little about the interaction of the two. How do we conceive of the ideas and cognitively marshal the information necessary to design buildings, and how does our built environment affect the neural activity inside our brain?"[1]

We make buildings and cities for humans, but do we integrate them enough in our thinking process? Do we know what their psychological and physiological needs are? In the fifties, the biologist Jonas Salk was desperately searching a vaccine's good combination. After numerous failed trials, while on holidays in Italy he got struck by the solution as he was walking in an opened area. Later he found the vaccine against poliomyelitis. His laboratory was underground, small and dark, which may help concentration but inhibit creativity and innovative ideas. He then became one of the first to realize how much the built environment could influence behavior and performance. With the help of the Architect Louis Kahn they initiated the research correlating architecture and neuroscience[2].

This paper explores new approaches of the design and planning process.

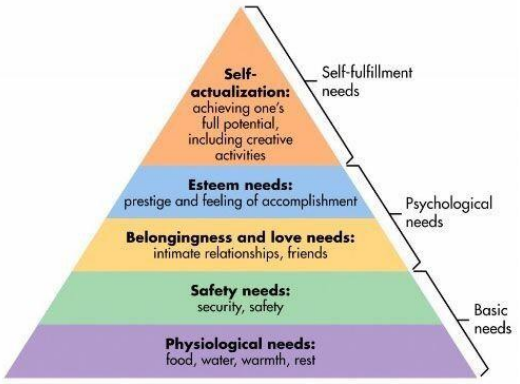
A new way of thinking Architecture and Urbanism

Most cities invest millions in buildings such as cultural centers, venues, spaces for young people and numerous others for community hoping it will enlighten a district, be popular and answer citizen's needs. Unfortunately, sometimes they fail to reach their expectations. Obviously location and purpose play a big role in this, but not only. Buildings have a major impact on humans, on psychology, behavior and physiology. Researching this impact is key to a better design and urban planning.

Every visual stimulus is treated by our brain, therefore knowing how the brain reacts to the built environment is crucial. Neuroscience is only at the beginning stage of research, there is still plenty to discover but experts already use it for education[3], psychology, cognition, sociology, even in marketing[4] but not in architecture, where it has a crucial role to play. Psychology and neuroscience for architecture and urbanism offer us a chance to design and custom buildings and cities beyond

specifications, client's brief and other regulations, it allows us to build an environment adapted to humans, to their conscious and unconscious needs.

In his pyramid, Maslow[5] classifies the five main human's needs in three categories: The basic needs (physiological needs and safety needs), the psychological needs (belongingness and love needs and esteem needs) and the self-fulfillment needs (self-actualization). The three first needs, including the two basic ones are related to architecture and urbanism; in the Physiological needs we can find warmth and rest, which relates to a home. The safety needs obviously refers to security and safety which are also expected from a home, but from a city as well. Finally, the psychological needs of belongingness and love will be sought in communities and urban organization.



Maslow's pyramid of needs has since been controverted by many, talking about motivation rather than needs, however the primary needs are the same for most of them. In this paper we will go through three primary human's reactions and attractions correlated with the built environment: The feeling of insecurity created by cities and streets, the need of belongingness to a community and the inevitable attraction to nature. These are part of the feelings and behaviours people cannot elude so it is crucial to integrate them in our design and planning process.

FEELING OF INSECURITY

The behavior[6] is the physical actions and reactions of someone in a situation that are observable from outside. Feeling of insecurity is a big problem in cities and in urban planning, as a matter of fact it can alter the expected flow and circulation, ending up in isolating some places or crowding some others. It is well known that people are scared[7] of what they don't know, and therefore what they don't or cannot see.

Walking at night in a dark street, where we cannot see ahead or around will almost always generate a feeling of insecurity and fear. There are two distinctive reactions to fear people may experience in streets; The instinctive reaction to seek for a shelter, an enclosed space when feeling threatened by surprise such as an unexpected loud noise. The human instinct will guide us to look for protection in a covered space. Whereas the feeling of fear that is more psychological, influenced by media and society that will raise an awareness towards aggressions and violence causes the opposite reaction. Walking in the streets, especially at night can be a scary experience for many people. It is interesting to notice that the feeling of security will be completely different than the one described above. Citizens will feel more secure while walking in a large, open, uncovered and bright space. The most uncomfortable streets to use will be the ones that are narrow, with multiple little corners and porches, the most enclosed ones. This phenomenon can be observed in many typical provençales cities in the

south of France that have an old city center. Despite its historical interest and "charm", the streets are very narrow and enclosed which pull visitors and habitants off walking in when it's dark. It is a problem because the shops and restaurants don't open at night due to the lack of clientele which makes the old center deserted at night. It is interesting to notice that people will feel safer to walk in a wide open place where they can have visibility and room to run away from danger if it occurs, but at the same time they will seek for small covered places to shelter from danger. In the process of urban planning it may be interesting to consider these two different reactions to fear and evaluate what is the most appropriate.

Knowing about psychology and neuroscience can also allow us to make more appropriate use of the technology. The smart houses, automation and many recent innovations can be fun, make life more comfortable and also be energy saving but it can as well cause stress to people. A very good, yet simple and not so new example is the movement detector as interrupter for lights; It can be energy saving for those who forget to turn the light off, conversely it can waste energy when it's not set up properly and also because it is not adaptable to the situation. Beside the pros and cons on energy, it can be a great source of stress, leading to a feeling of insecurity. As a matter of fact, a person alone in a library equipped with presence/movement detectors will trigger the light while passing the detector but if he/she stops to look at a book or stays still the light will turn off inducing stress, fear or even panic depending on the person. Another example could be a fully automated house undergoing a power cut. This problem has already occurred, leaving the habitants completely powerless over their house, so they are now rethinking the systems in order to allow some mechanical solutions. But it is still far from being ideal. The concept of automated technology is to be independent, to free people from thinking of it or having to control it. But at the same time it induces loss of control, so what should we do? The stress-fear-feeling of insecurity comes from the surprise factor in this case but most generally from the loss of control. It brings us back to the fact that humans fear what they don't know or cannot master themselves. The decrease of empowerment that results from technology needs to be consider when using it in cities and buildings. In the battle between technology-peace of mind-loss of control versus less technology-more control, I would suggest the less technology option as the fear the other one can trigger is primary instinct against which technology will not be able to compete.

FEELING OF BELONGINGNESS (lack of belongingness in Detroit)

According to Abraham Maslow, the need to belong is a major source of human motivation. Amongst others, this idea is also supported by psychologists Roy Baumeister and Mark Leary[8]. Although it is controverted because some may feel under great pressure because society tells them "they have to belong", also conditioned by our culture. However, the desire to have an action and belong to something more important than themselves seems to be in human nature. This will allow people to be clearly identified for themselves and for others.

Once considered as a symbol of American prosperity, up until the fifties when there were two million people living in Detroit, now there are only seven hundred thousand people and the city could become a national financial problem. The city used to be called the Motor City and proud of being a global leader in the automobile industry. Detroit started to decline in the fifties and the "Subprimes crisis" in 2008 has brought the city towards bankruptcy[9]. Many areas that once were pleasant suburbs became deserted, where houses are now abandoned and reduced to ruins. Obviously the end of the automobile industry is the main reason for its decline, but we may also consider another problem they had to face: The lack of belongingness. According to Maslow's hierarchy of needs, belongingness is the third most important human need.

For most cities such as London, suburbs are well defined, they have their own identity; their names, their particularities and they are articulated around a lively center with its own facilities, like a small town within the city. Detroit was lacking such organization; its suburbs did not even always have a name. People need to feel part of a community, to be integrated in their home town. The most they feel they belong to a community or to an area, the most they will be attached to it and willing to look after it and stay. During the golden age of its industry, most of the manufactories of Detroit were gathered in the center, so were most of the facilities and the suburbs hosted mainly, or even only accommodations. Consequently, when the industry declined most people lost their jobs and had nothing to keep them there so they left.

The loss of a job is often a reason for moving but when there is an attachment to the city and a sense of belongingness to where they live, the habitants will be more inclined to seek another job in the area. When they get a strong sense of community and therefore an attachment people may even be inclined to lower their expectations concerning their jobs. We could use the case of Detroit to bring another asset in urban planning; the feeling of belongingness to a community will be more sustainable in the long term than betting on the success of an emerging industry, even if this one seems prosperous at the time. Industries, trends and aesthetics are always ephemeral whereas human's universal needs may evaluate but are likely to stay the same. Therefore, it is important, while designing, to evaluate and making the citizen's natural needs at the top of our thinking.

NATURE IS CRUCIAL IN CITIES (New-York)

Whether we like nature or not, humans are somehow instinctively attracted to nature. On the physiological side, researches have shown that having a view on nature lowers the hormone cortisol in the blood. Cortisol is also called the hormone of stress, it induces stress, hypertension, it can also influence the eating habits, the quality of sleep, it can improve the healing process, concentration and more[10]. Cortisol is secreted mainly by the adrenal glands. Its excretion is regulated by the hypothalamus that stimulates the pituitary. Its natural secretion in the body follows the circadian rhythm (biological clock) which is regulated by the day/night cycle. The hormone reaches its higher level in the blood between 6 and 8 in the morning, and its lowest at night. This hormone is essential to life because it regulates the glycaemia in the blood, increases the blood pressure and neutralize inflammation. The total absence of cortisol in our body would kill us in a couple of days but a small excess of it can also have bad effects; the adrenal glands produce it in response to stress, and in case of an

extended state of stress or a chronic stress, it can become harmful. It can cause hypertension, influence the mood and the quality of sleep. High levels of cortisol can also inhibit the osteoblastic activity resulting in osteoporosis and problems with bony development in children, lower the immunity system leading to infections, and also delay the healing process of the wounds and impoverish the quality of the skin[11]. Many studies[12] have shown that walking in a natural environment rather that a street entirely made of concrete, having a view through the window, or apparently even on screen or posters will lower the levels of Cortisol and have a positive impact on health[13]. The city of New York and its Central Park is a good example; as we can see on the picture from the Huffington post below, the park with its great lawn, its lake, museums, zoo and different fields and gardens is big (341 acres), varied and green.

On demand of the New Yorkers, Central park was created in 1873. It is now very popular and most citizens and tourists appreciate it a great deal but it has not always been the case. In the early 20th century, between the development of automobiles and the wall street crash of 1929 it encountered a first failure and declined because of the economy and because people were now able to drive and take some time off outside their city, to the Atlantic coast or to other parks. Urbanist Robert Moses brought it back to life, but following his departure in 1960 the park encountered its second decline. For twenty years it was left abandoned and became unsafe until volunteers took the initiative to restore and maintain it.[14]

Many cities have their big park such as Bois de Boulogne in Paris and Hyde Park in London. Having such large green space is great but on a daily basis only people who live on their direct borders can benefit from its good properties on health and well-being. We can notice that housing prices are very high around these three parks, although they are well situated near or in the city center, the demand and price are often higher for the accommodations with a direct view on the park. Buyers and renters may not be aware of it but it is not only because “the view is nice” that they like it, the view actually has an effect on their brains and bodies. Unfortunately, the infatuation for this view on green creates inflation on housing’s price which brings inequalities towards lower classes who won’t be able to enjoy the health benefits. Ideally there should be many small “green corners” so that more people can have a view on vegetation from their homes and walk through more frequently. This is also to take into account while designing a hospital or a school as recent studies have shown very positive results; In hospitals they noticed an acceleration of the healing process and in schools an improvement of the cognitive development.

COULD BETTER HUMAN KNOWLEDGE MAKE THE URBAN FUTURE LIVABLE?

Eileen Gray said "To create, one must first question everything". Since we make buildings and cities for humans, knowing how they receive the information we send them through our designs is crucial. Doctors have the power to save life and cure people. Professionals of urbanism and architecture have the power to influence the life of people, their health, their minds and behavior. Architecture and urban planning should be considered like medicines; they should be "prescribed" after a thorough examination of the habitant(s), considering their primary needs, their health, their psychological needs, their physiological needs and of course their brief which never mentions the previous details but only aesthetic, practical, environmental, legal and financial details.

Artificial light, natural light, colors, shapes, volumes, heights, materials, and all the information we can transmit through the built environment will have a direct impact on the brain, behavior, body, psychology and feelings resulting not only in the success or failure of the design/planning but also on the health and well-being of the users.

Yes, the urban future is most probably livable if we bring more humanity and interest as well as knowledge for the whole human to the heart of it. "All fine architectural values are human values, else not valuable" (Frank Lloyd Wright) so let's go further and bring human values to their essence and reflect on the core of human as a whole.

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SOULFUL LIGHT IN LIVABLE SMART CITIES

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INTRODUCTION

Advancement of modern electric light during the Industrial Revolution expanded the wakeful hours of the day, fueling non-stop activities around the clock. Electric light made work after sunset possible, resulting in a "radical reconceptualization of the relation between work and time."[1] It expanded economic activities beyond daylight time to all times of the day. With the recent advent of LED technologies and digitally-controlled interactive illumination, we are amidst another revolution in urban lighting. The past two decades have witnessed a surge in intelligent light control that responds to collected data, LEDs of remarkable brightness and color capabilities, and lenses that direct light with extraordinary precision. For example, streetlight controls can now respond to weather conditions or changes in surrounding surface materials, and roadway illumination automatically dims when the traffic flow decreases.[2] The post-industrial era has also witnessed an overabundance of artificial light around the clock. Neurologists' research results have shown that overexposure to light at night from LCD screens or street lights disrupts sleep, while exposure to daylight enhances alertness in the daytime and deepens sleep at night[3].

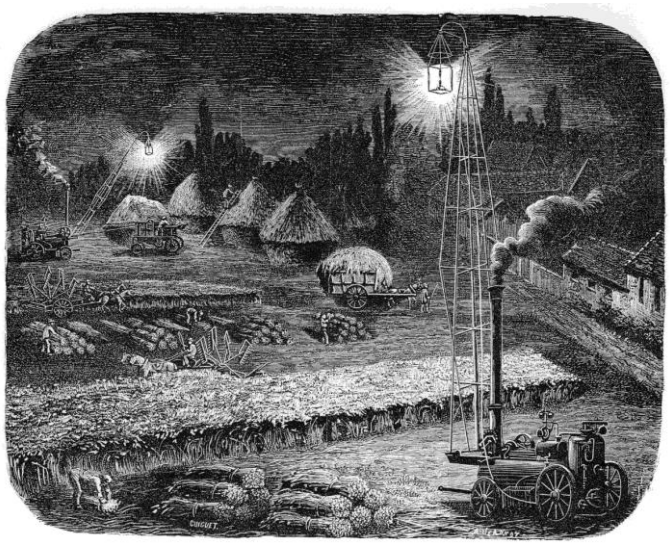


Figure 1, Woodblock print Harvesting by Electric Light (1882) La lumiere electrique by E.M. Alglave and J. Boulard. Generator mounted on portable steam engine supplies electricity for the arc lamp hanging from a tall mast.

As cities across the globe announce ambitious plans to build either brand new "smart cities" or turn an existing city into one, what does urban light communicate about the place and its people, and how? Anthony Townsends, the former Research Director at Institute for Future, defined smart cities as "places where information technology is combined with infrastructure, architecture, everyday objects, and even our bodies to address social, economic, and environmental problems."[4] Major technological, economic, and social changes (such as urban population growth, climate change, and increase in the aging population) generated surging interests in smart cities.[5] As safety, efficiency, and sustainability dominate the rhetoric of smart cities, how could cities maintain the idiosyncrasies and nuances that characterized those of the past, the qualities that make one city distinct from another? Cities must not only offer efficiency and comfort but also delight; these attributes not mutually exclusive, and their co-existence is necessary for human wellbeing.

In current urban design discourse, livability is often assessed quantitatively though measurable impacts such as energy consumptions and illuminance levels.[6] Conversely, there are 'soft' livability factors. This paper suggests an alternative, qualitative understanding of livability, specifically centered around urban light that delivers more than its practical functions. By combining advanced lighting technology and empathy, urban light can communicate a city's collective memories and the represent city dwellers' souls, as well as offer safety, comfort, and efficiency of livable cities.

Utilitarian and Symbolic Functions of Urban Light

Light in cities has historically served both utilitarian and symbolic functions. For a practical purpose, streets are illuminated for safety and wayfinding. In medieval European cities, pedestrians were required to carry a lantern to make themselves visible to others from a distance[7] and conversely detect other lantern bearers. Recent researches have also shown that lighting pedestrians at night can be perceived as either dangerous or safe. [8] This shift in perception depends upon factors such as the angle from which people are lit and the contrast between bright and dark.[9]

Figure 2, Print by Gaetano Gherardo Zompini. Lantern-bearer, from the series The Arts of Everyday Life in the City of Venice, Le Arti Che Vanno Per Via Nella Gittà di Venezia (1753). Source: RISD Museum.

Both natural and artificial light also serve symbolic functions. Before industrialization, when people awoke and slept in synch with the solar cycle, religions around the world associated light with the divine.[10] In Japan's oldest recorded history, the sun goddess Amaterasu created the Japanese archipelago. Hindu culture brings in their new year with Divali, the festival of light, which occurs with the new moon in autumn.[11] With industrialization, people could now control artificial light at will. This shift in control has overshadowed the divine powers of the sun and the moon. Nonetheless, artificial forms of light–including candle, gas, and electric light–have maintained an association with the soul. Gaston Bachelard wrote that a person will "perceive the lamp as a mirror of his inner self."[12] For Bachelard, the lamp was the soul of a house.[13] Additionally, the types of lamps symbolized class and power. Mosques and churches impressed worshippers with large chandeliers whereas on the streets, ordinary citizens held torches and lanterns.[14] Furthermore, as the municipality began to control street illumination, street light fixtures became a symbol of authority. Victor Hugo's novel *Les Miserable* opens with the street child Gavroche breaking a street lamp, a symbolic act of rebellion against the authorities[15]. In the recent past, residents of the Pruitt-Igoe public housing smashed corridor ceiling lights, which made crimes less visible to the police and subsequently heightened the sense of danger[16]. Examples of contemporary lighting projects discussed later in this paper show that light continues to fulfill symbolic, communicative roles in today's cities. With advancements in LED and sensor-control illumination, contemporary light has become more nuanced and responsive, presenting expanded possibilities for the ways in which light symbolizes life in cities.

Smart Cities - Impact on Urban Light

As seen in the examples of Hugo's novel and Gaetano Gherardo Zompini's print from Venice in the 1700's (see Figure 2), candles in pre-industrial cities were a form of visual communication. This is comparable to today's electric light networked with data collected in real time, ranging from the presence of people, the weather, to the traffic patterns. Philips, an electronics company based in the Netherlands, has worked with its hometown of Eindhoven to record the city's parking usage, social media communication, and noise level on the streets. Philips analyzed these data to optimize light levels on the streets lined with bars and restaurants.[17] Urban light that corresponds to actual usage can reduce electricity costs and protect urban dwellers from excessive light exposure.

Recently built smart cities indicate, however, that economic gains, sustainability, and safety are insufficient to attract residents. Songdo in South Korea and Magdar in the United Arab Emirates are two high-profile, often-analyzed examples. Songdo International Business District (Songdo IBD) in South Korea is a forty-billion-dollar smart city built from scratch on a landfill adjacent to the Incheon International Airport, forty miles outside of the nation's capital, Seoul[18]. The project began in 2001 to mark South Korea as a trailblazer in sustainable developments. An array of sensors embedded in buildings and streets regulate traffic, thermal comfort, and energy consumption. Despite its safety, tax incentives, and efficiency, however, the developer struggles to attract inhabitants.[19]

Masdar City, built in the dessert of Abu Dhabi, United Arab Emirates, is committed to zero carbon, zero waste.[20] Designed by Foster and Partners beginning in 2006, Masdar is a brand new city for 50,000 residents and 40,000 commuters. It is largely funded by the government of Abu Dhabi, who was eager to become a leader in renewable energy and sustainability.[21] The city is designed to be fueled by massive photovoltaic power plant and features pedestrian friendly streets and driverless cars, along with passively cooled buildings.[22] As of February 2016, however, only five percent of the master plan has been executed, and only three hundred people live there. The world's first planned zero-carbon city may become the first green ghost town.[23]

Reasons for these failings are complex, ranging from technical, economic, to political. One probable cause is the vast contrast between the fast rate of technology change and the slow rate of building construction. At Masdar, driverless car infrastructure planned ten years ago has been overtaken by the automobile industry's advancement in zero-emission electric cars.[24] Additionally, its weaknesses are attributed to the local government's agendas focused nearly exclusively on quantitative economic growth of a so-called eco-city[25]. Songdo's developer admits it is a challenge to replicate vitality and diversity of a city that grows organically over hundreds of years.[26] Songdo and Masdar's outcomes suggest that sustainability's economic gain alone is insufficient to sustain a vibrant livable city.

Rem Koolhaas remarks that smart cities are often visually portrayed with innocent, cute icon graphics which appear to shield the smart cities' potentials to homogenize and suppress its architecture and inhabitants, making cities banal and predictable[27]. He cautions that we should not "discard urban intelligence accumulated over centuries"[28] in the name of the new trinity–comfort, security and sustainability–that replaces the traditional European values of liberty, equality and fraternity.[29] As Sociologist Richard Sennett also writes, "no one likes a city that's too smart."[30] Efficiency and convenience alone provide neither a sense of community nor the sense of participation in shaping a city. "User-friendly" in Masdar means choosing menu options rather than creating the menu," Sennett observes.[31] A livable smart city demands its citizens' engagement as authors of the menu.

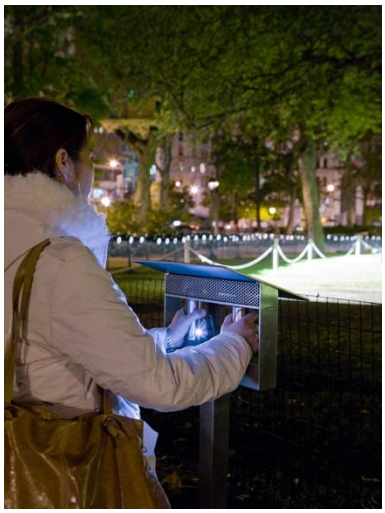
Contemporary soulful light projects

Livability of a city is dependent upon both the hard and soft measures. On the other hand, there are hard, measurable impacts of light on livability, such as the impact of light on rates of crime or car accidents. On the other hand, there are aspects that are harder to measure. A constituent of these 'soft' livability, as seen in the art projects discussed below, is light that tell a collective narrative of city dwellers; light becomes an agent for participatory place- and identify-making. The new night-time characters could reinforce, or contrast, the daytime identity. Italian novelist Edmondo de Amicis writes in his 1872 travelogue that "Constantinople is by day the most splendid and by night the darkest city in Europe."[32] Because city dwellers of the 1800's went to sleep after the evening prayer, pre-industrial cities became dark and invisible at night that lacked the night-time identity that artificial light enabled. Today, modern urban illumination has "colonized the night, effectively doubling the hours available for purposeful activities, and industrious and otherwise."[33] Put differently, when cities redesigns their lighting infrastructure, each place has an expanded capacity to communicate its distinct nighttime character after sunset.

Umberto Eco's notion of *opera aperta*, or open work of art, offers lenses through which to see new possibilities in urban light. The artist hands an unfinished, or *open*, work to the performer or participants to intervene, resulting in a different piece each time it is played or viewed. Eco defines the term *opera* as "…an object endowed with structural properties that render possible a number of successive interpretations, a series of evolving perspectives, but that also enable us to coordinate such a series."[34] In order for smart cities to sustain themselves as vibrant communities, cities must not become prescribed and *univocal* but be open to interpretations and become *plurivocal*.[35] The following three experimental light projects–*Pulse Park*, *Broken Light*, *and Tribute in Light*–suggest ways in which light could mirror collective and individual souls of a city through public participation.

Pulse Park[36] by Rafael Lozano-Hemmer is an art installation in Madison Square Park. As the park visitors hold the sculpture's metal handles, sensors measure their heart rates. The visualization of the pulses is then projected in block-scale light patterns across the lawn in narrow beams, moving sequentially down the oval-shaped ring of spot lights. The artwork is as variable as the participants and their heartrates, becoming a piece that is never the same twice. Biometric data collected from the

participants gives life to the work "a poetic expression of our vital signs."[37] This project introduces a novel way in which data might be collected tactically and projected on the ground surface of a public park instead of the ubiquitous flat display screens.



Figures 3 & 4, Pulse Park (2008) by Rafael Lozano-Hemmer. Source: lozano-hemmer.com

Broken Light by the Dutch firm Daglicht & Vorm[38] is a street lighting project that redefines the characters of Katendrecht, a former red-light district of in Rotterdam's harbor. Multiple scales and patterns of street lighting are layered upon each other. Poles on the sidewalk aim vertical beams of light between the windows. The precisely modulated light makes the facades visible while minimizing light spill into the interior. This sympathetic act protects the inhabitants' sleep from being disrupted by light exposure at wrong times of the day. Additionally, the poles project dappled light patterns on the sidewalk, evoking dynamic shadows cast by tree branches during the day. In contrast to these playful, atmospheric lights, the vehicular roads are lit with uniform, bright light to improve driver visibility. The lighting project thoughtfully highlights the characters and intimate scales of the neighborhood while simultaneously being sympathetic to human health and nighttime safety. Most importantly, it brings pulses back to the sidewalk, a vital component of a livable, vibrant city.

Figure 5, Broken Light (2011) by Daglicht & Vorm, Atjehstraat Rotterdam. Source: Daglicht & Vorm.

In *The Death and Life of Great American Cities,* Jane Jacobs writes, "sidewalks, their bordering uses, and their users, are active participants in the drama of civilization versus barbarism in cities."[39] She observes the intrinsic relationship between active sidewalks in cities and safe neighborhoods. Extensive networks of pedestrian paths exist in recent examples of smart cities such as Songdo, but without buildings that border the active paths and the observers' eyes on the street, the paths bring little to 'the drama of civilization'. The varied scales and qualities of *Broken Light* attract people to the street; they become active participants in making of a neighborhood. Also, whereas many new urban developments have demolished buildings from the past, the *Broken Light* revitalized an existing urban block to bring a sense of pride to a neighborhood once associated with crime. It helped to preserve a neighborhood's human-scaled buildings, prompt chance encounters, and recognize its historic individuality while giving it a renewed identify.

Figure 6 Tribute in Light (2002). Source: Getty Images

Tribute in Light is twin light shafts representing the World Trade Center towers in memory of the 9/11 attack. Located near the National September 11 Memorial & Museum, it is a public art work self-initiated designed by two groups of artists and architects[40] with lighting designer Paul Marantz[41]. Eighty-eight 7,000-watt xenon search lights are positioned into two 48-foot squares reflecting the shape and orientation of the Twin Towers. When co-producer Creative Time, a public arts organization, initially posted online the idea of 'phantom towers', over 12,000 readers responded[42] People looking to replace the immense absence voiced their positions, and the city reciprocated with monumental towers of light. *Tribute in Light* was first presented on March 11, 2002, over nine years before the 9/11 Memorial opened in 2011. On every anniversary of the attack, the beams of light appear for one day. Its ethereal, impermanent presence fills the void and leaves a mark on the psyche of the viewers. It is a powerful testimony to the light's capacity to communicate with the mass and create a communal experience of a monumental scale.

CONCLUSION

Each of the projects above creates a night city in which light visualizes and celebrates biorhythms of people in a public park, pedestrian experience of a historic neighborhood, and collective memory of citizens who shared a tragic event. These light projects show smart urban light's capacity to not only offer safety and efficiency but also represent individual and collective souls of its citizens. Historian David Nye writes, "electrification is not a neutral process. Rather, every night city has created a variant of its daylight identity, one that emphasizes only some elements of its history, location,

architecture, and political system." They combine technical advancement in digital, precise light control with a participatory approach that bring out characters of a place and prompt chance encounters. Soulful light in contemporary society does more than lower crime rates or energy consumption; it is an act of generosity to city dwellers.

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THE CIVIC UNIVERSITY AND LOCALLY-ENGAGED PRACTICE IN ART AND DESIGN EDUCATION

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INTRODUCTION: THE CIVIC RESPONSIBILITY OF LOCALLY-ENGAGED PRACTICE

We have witnessed the unapologetic rise of financial profit at the expense of social, environmental and other forms of collective wellbeing. Concomitantly, the priority of education today, driven by market demand over the intrinsic value of knowledge, signals the end of the welfare state. This tracks with the waning of the post-war consensus in which united, cross-party majorities developed policies to promote cultural tolerance, gender equality, progressive taxation, fair pay and publicly funded mass education—values that are also central to the theory and practice of the civic university that underpins the position of this paper.

Many of those who voted against Brexit and Trump and deplore their value systems are struggling to imagine futures that are livable on the terms of our recent past: the heyday of liberal democracy in the West during the second half of the twentieth century. Some of us working in higher education are turning to experimental models and historical exemplars as alternatives to the present 'academic capitalist regime',[1] to use John Saltmarsh's descriptive turn of phrase, and the yawning inequality that marks neoliberalism.

As a result, the civic university and its holistic vision of progressive society is making a comeback. In what follows we reflect on the current relevance of this nineteenth-century reform, including its drive to embed learning in the communities where it takes place. Under the agenda of inclusiveness that motivates the civic university, education is an integral part of the public sphere and hence a shared resource—a common good. This is part of a broader project to mobilise civic education in the service of a civil society.

The main example we describe is from our own institution, Chelsea College of Arts (henceforth Chelsea College or the College), a constituent of the University of the Arts London. We discuss how our studio, one of seven composing BA (Hons) Interior and Spatial Design, seeks to embody the ethos of the civic university. This resonates in the context of growing interest in alternative art and design education and touching on the Civic University project led by our friends and colleagues of the London-based critical design practice 'public works', we argue that what differentiates our studio's approach from theirs and others is a para-institutional mandate. This stems from our studio being embedded in a degree-granting institution of art and design *and* operating in the local community, beyond the ivory tower of higher education. This results in productive reciprocity between these two spheres of influence rooted in a strong sense of the space and role of the institution and its potential as a community resource.

Without locally-engaged practice and other forms of civic responsibility like the kind discussed below, the UK's institutions of higher education run the risk of becoming international, while at the same time, increasingly insular. Higher education as an enclave for a global elite that foregoes responsibility to its immediate context is not the stuff of a livable future for the majority. It is our contention that grounded

in locally-engaged practice, the civic university provides a relevant and empowering model for resisting this exclusivity and the exploitation that neoliberalism depends on. Moreover, formative work in our studio suggests that art and design education is especially well-placed to advance this project.

THE CIVIC UNIVERSITY

To prime discussion on how our studio is advancing civic learning for a civil society, a brief overview of the civic university aims to outline its history and significance as an expression of social reform. The term 'civic universities' (also known, with some variation, as 'modern', 'redbrick' or 'engaged' universities) refers to institutions of higher learning, mainly in England, that were founded in the nineteenth century and which subsequently became universities in the twentieth. These sprouted in the burgeoning cities of the industrial revolution: Liverpool, Manchester, Leeds, Birmingham, Bristol, Sheffield, Newcastle, as well as Dundee and Welsh universities beyond England. Nicknamed 'redbricks', for the material of their architecture, these institutions of learning transformed higher education in the UK, and by extension the Commonwealth, by making it more diverse, accessible and nationally-dispersed.[2]

While there is no question the redbricks offered an alternative to the coterie of Oxbridge, the terms of this are something that William Whyte is keen to impress in his seminal study, *Redbrick: A Social and Architectural History of Britain's Civic Universities*.[3] The book's thesis is that there were contra tendencies to see these modern universities as 'paled or failed imitations of Oxbridge', the inclusive value system that motored redbrick universities was central to making them equally as rigorous and arguably more relevant in their distinctive but also shared approach.

At the time, Oxbridge only admitted the male elite who were in good standing with the Church of England to study a liberal curriculum, one that focused on the classics and mathematics.[4] Conversely the civic universities developed from technical colleges and would soon admit not only men but also women, regardless of their religion or social background. The curricula focused on practical and professional training, if the express purpose of Oxbridge was to reproduce a social elite to lead society, the redbrick institutions prioritised the production of useful knowledge for a richer and more equitable society. These institutions of learning were built in rapidly expanding manufacturing towns and cities to serve these growing communities in order to better knowledge of engineering and scientific advance, as well as improving medicine and therefore enhancing the health and standard of living of the local population. As Whyte argues, a distinguishing feature of the redbrick institutions is that they are not only open - as in inclusive - but also local. This place-based approach was designed to equip graduates to work in local industries and with local materials. A strong sense of civic duty[5] was central to this proximity, with this philosophy of education charging students, tutors—and their institutions—with the responsibility to give back to the communities that supported them.

A review of literature on the civic university suggests that it offers an alternative to the higher education sector's growing preoccupations with their position in the 'global marketplace', the monetisation of learning in the 'knowledge economy', as well as pressures on educators to be financially demonstrable via 'measurement and performance'.[6] The civic university seems to confront these issues by the very fact that it is locally engaged, garnering this educational reform renewed and widespread interest as a potential antidote to globalisation. That said, this risks the civic university being perceived as a provincial step back into the past in a globally-networked society. Lorlene Hoyt and Robert Hollister have argued against this by way of an extensive survey that demonstrates the international possibilities of growing discourse on civically-engaged universities (journal articles, conferences and partnerships, etc.).[7] This scholarship and practice is self-organising thanks to efforts like those of the Talloires Network, an international association of institutions 'committed to strengthening the civic roles and social responsibilities of higher education'[8] founded in 2005. John Goddard et al.'s *Civic University:*

The Policy and Leadership Challenges echoes this scope via analysis of eight European universities, which, in addition to being research intensive and publicly funded, have achieved national and international profiles for their visionary work in civic engagement, therefore evidencing the international scope of sharing this pedagogical approach.[9]

At the same time that interest in the civic university is gaining amongst colleges and universities, enrolment in higher educational institutions in the UK is down.[10] The introduction of tuition fees is proving prohibitive for many home students and EU students are staying away in the face of Brexit and the threat of terrorism. It is therefore no surprise that colleges and universities are actively recruiting international students from further afield and are becoming increasingly dependent on their fees. As classrooms fill with student visitors to the UK who actively identify as mobile and global citizens, institutions of higher education could very well once again find themselves to be enclaves of the elite. When the bulk of the student body is transient it can be difficult for institutions of higher learning to create long-term programmes to engage with local communities that are more rooted and continuous. Taking up this challenge, our spatial design studio Chelsea Local has turned to the civic university as a basis for working with local communities to cultivate the wealth of local resources, history and the creative potential of Millbank.

To contextualise our studio within this discourse it is useful to note the shift in focus of the term 'civic' that has occurred since the founding of redbrick universities. Initially, their sense of 'civic' seems to have been 'of or relating to a city or town or the people who live there'.[11] This contrasts with the understanding valued by Chelsea Local and other proponents of the civic university today who foreground this term as 'relating to citizenship or being a citizen'.[12] This emphasis is being widely explored in current art, design and architectural practice and produces a sense of agency and political participation as well as an understanding and awareness of geographical site. This contemporary meaning is exemplified by critical design practice public works' Civic University project. For more than a decade, public works has been investigating a terrain where activism, architecture, art and performance overlap. Their website asserts the following: 'Together with our interdisciplinary network, we re-work the city's opportunities towards citizen driven development and nurturing their rights over the city.'[13] Central to this project is engaging with the civicness of cities; the structures that constitute and restrict the possibilities of contemporary public life. Whilst this drives many of public works' projects, it finds explicit form in the Civic University, which is facilitated with other notable not-for-profit initiatives: R-Urban, The Old Tidemill Gardens, Interact Roman Road and Loughborough Farm.

To indicate how public works' the Civic University compares and contrasts with that of Chelsea Local, three considerations will suffice. First, both live projects are pedagogical experiments that view the production of the city and its citizens as a collective process in lifelong learning. They both address real-world needs, not of a distant other but of specific neighbours and neighbourhoods. Second, both the Civic University and Chelsea Local spring from a deep appreciation of locally-engaged practice as foundational to relating to one's place in the world in a meaningful way. Key here are the day-to-day interactions through which this engagement reproduces particular parts of London and how through coordinated action, creativity can enrich the shared experience of those who live and work in these locales. Whilst for Chelsea Local this takes places in Millbank, the Civic University is anchored in Hackney but dispersed across London. This makes the projects complementary as their sites overlap and their enterprises operate at different scales. And third, both depend on relations that bridge informal associations and formal institutions. In the case of Chelsea Local, however, the latter is core, with the studio's coursework being integral to Chelsea College's curriculum for BA Interior and Spatial Design. Whilst there is no question that the Civic University's extracurricular programme of builds, events, campaigns, etc. does invaluable work that takes place at arm's length from any institution of higher education, Chelsea Local affords a different and equally urgent form of engagement. Principally, this

stems from the critical reciprocity that our studio brokers between Chelsea College and the communities that surround it. It is beyond the scope of this brief paper to elaborate how in conducting this relationship our studio posits a modest, but also increasingly effective, form of institutional critique as it quietly troubles the current financialised educational system that is gripping higher education in the UK. However, to prime future discussions on this programme, the final part of this paper will sketch the para-institutionalism that motors Chelsea Local as a particular embodiment of the civic university. As such, it seeks to mobilise learning in art and design in the service of an alternative future in higher education, a future that is more desirable and hence more livable than our current reality predicated on an academic capitalist regime.

CHELSEA LOCAL AND PARA-INSTITUTIONALISM

Para-institutionalism is an emerging framework for analysing practices that are contiguous with institutions and other existing initiatives. More specifically, para-institutionalism wraps with the so-called 'curatorial turn' as its vision finds form in how the curatorial platform *Para-Institution* defines the term:

> [Para-institutionalism] acts as a self-critical, self-reflective tool, examining the local context and [...] exploring the potentials of an institution of co-operation, and mutual focus, and inter-linking key organisations and practitioners that share the common goal of demonstrating the role of contemporary art practices in activating and instituting cultural change.[14]

Underlying this sense of para-institutionalism as a catalyst *for* change is also how it acts in response *to* change; including shrinkage in the public sphere. We can think of para-institutionalism as a 'self-critical, self-reflective tool' for reframing and diversifying institutions that were formerly public and historically responsible for administering the post-war consensus. In step with deep cuts in public funding to higher education across the UK, many are in the throes of redefining their scope and mission. In the case of the Chelsea College, some are asking: What role are staff, students and local stakeholders playing in this process? What say do we have in how infrastructure, systems, networks—values—are revamped and managed? Faced with more questions than answers to queries like these, there is growing interest across the UK leading many sectors wondering about the foundational question: 'What are universities for'?[15] When the responses are unsatisfactory, some have chosen to leave or bypass the system by creating alternatives. Exemplars of trends in non-accredited higher education in art and design include Open School East and the School of the Damned in the United Kingdom and Bruce High Quality Foundation in the United States.

While inspirational, alternative schools of art and design also face many challenges—for example, their financial sustainability is often problematic—they may not charge their students fees but many forego paying their faculty and other workers. As naming and shaming is not our intention here, suffice to say there are countless reports of recent BA graduates approaching their former tutors to volunteer on free MAs. This means the social reproduction of alternative schools is precariously tethered to the institutions or employers who pay tutors enough to volunteer elsewhere. For all their supposed autonomy from 'the system', unaccredited programmes feed off the expertise of more established networks. Para-institutions like our studio are also nourished by host institutions, in our case Chelsea College. Our institutions—in fact our former public sphere—is cash poor, but it still has some resources. For instance, Chelsea College has space, networks, infrastructure, admin and publicity support and occasional bits of funding which help to provide hospitality for our events, pay fees and finance publications. However, if historically resources like these were for the benefit of staff and students, the way that value is produced and

distributed through Chelsea Local differs from many alternative schools[16] and degree-granting programmes to boot. We consider this with reference to a live project that has motored the curriculum of Chelsea Local in recent years.

One of the key projects carried out by Chelsea Local is The Millbank Atlas, which brings together researchers, students and residents to trace the neighbourhood of Chelsea College of Arts. The ongoing project creates meaning through conceptualising the neighbourhoods of Millbank as comprised of reciprocal relations among the College and surrounding businesses, residential blocks, civil society groups, infrastructure, amenities and further aspects of this built and natural environment. In this way, our studio prioritises socially-involved spatial practice working in real sites through live, collaborative projects as we ask students to critically engage with the local context and communities in response to their particular needs. Since 2005 this has developed through Chelsea Local's partnership with Millbank Creative Works and in particular Wilfried Rimensberger who heads up this local not-for-profit network that bridges critical fine art practice, enthusiast and hobbiest cultures and culturepreneurs. Our collaboration with members of this network finds form through shared practice-based research such as co-produced exhibitions, publications and workshops. For instance, as part of a public programme of events at the Cookhouse Gallery in January 2017 that activated an exhibition of these artefacts, we worked with Nicolas Fonti, a researcher from the Bartlett School of Architecture and a key member of JustMap (a collaboratively-produced map of London showing the city's community resources and current campaigns with the aim of connecting people together) to facilitate a workshop with students and the local community. We worked around a large 2D map, annotating it with push pin flags and other tokens to create a richer picture of our immediate environment. This aimed to tap our collective intelligence about the lived experience of Millbank with the view of better understanding local resources and strengthening solidarities amongst housing and other community-based campaigns related to the built environment.

Figure 1. The Millbank Atlas Exhibition, Community Mapping (Marsha Bradfield)

The value of this process for local stakeholders was immediate: the exhibition—and especially the workshops—helped to raise awareness of local concerns, built momentum amongst community activists and valorised their ongoing activity that responds to housing needs pertaining to affordability, upkeep and ensuring that local residents enjoy a decent quality of life. By working with these urgent issues and observing them evolve through practice beyond higher education as a detached realm, students gained

essential skills and knowledge regarding how to apply them, with The Millbank Atlas functioning as a case study of locally-engaged practice grounded in the ethos of the civic university. There is something profound about moving across representations—from the bird's eye view of Google maps to what this type of search cannot see, i.e. the worm's eye perspective that comes from spending time interacting with a local environment and stakeholders beyond the college who live and work there. In this way, knowledge that is produced not only benefits the students, who will take it with them upon graduation. This embedded process also benefits the College and local people. Holding a week-long exhibition in the College's gallery is a case in point, with this public dissemination befitting each of the stakeholders differently.

Figure 2. Millbank Creative Works at The Millbank Atlas Exhibition (Fernanda Liberti Duarte)

On the one hand, as commented on by Millbank Creative Works' Rimensberger, displaying work produced through student-community collaboration in a cultural institution of repute valorises the efforts of local activists when this is juxtaposed with artefacts and artworks produced and displayed at the College. We were also intrigued to observe that our exhibition was an unprecedented invitation to locals to visit. For many this was the first time they had ever crossed the threshold of Chelsea College, despite having lived or worked in the neighbourhood for many years. On the other hand, students benefited from having their work not only displayed but also activated through the workshops and written accounts in the exhibition's catalogue. While contextualising their practice and making connections between their work and that of their peers, the curatorial attention afforded by this publication is highly prized by those wishing to establish their reputation as professional practitioners of spatial design.

Figure 3. *The Millbank Atlas exhibition, Curated Conversation (Marsha Bradfield)*

All this is to say that whilst both degree-granting and non-accredited programmes in art and design tend to prioritise the needs of students through delivering curricula that takes place in the bricks and mortar of their campuses, Chelsea Local takes a different approach. The College serves as a base but our classrooms are the neighbourhoods of Millbank. Through this dispersion we invest in win-win scenarios where learning unfolds via a community of practice comprised of students, staff and other stakeholders. Students gain invaluable hands-on experience supported by their course and enriched by the situated knowledge of Millbank locals; local communities gain the students' attention, enthusiasm and expertise as it is brought to bear on regional issues and by way of locally-engaged collaborative enterprise.

CONCLUSION: PARA-INSTITUTIONALISM AND MORE LIVABLE FUTURES

Parasitism may seem counterintuitive as a way of bridging formal institutions (e.g. Chelsea College) and informal associations (e.g. Millbank Creative Works). However, this is precisely the rationale for Chelsea Local's practice-based approach to para-institutionalism. Inspired by the civic university and its emphasis on being open, local and practically-orientated, para-institutionalism is a loosely-knit framework for activating the interplay between Chelsea College and the communities that compose its neighbourhood of Millbank and, crucially, vice versa, in an assessment of local need. This critical reciprocity has consequences when reckoning with the systemic impact of neoliberalism. The values of liberal democracy that once underpinned our public institutions and other structures—the systems that were so hard won as an upshot of the great wars—are slated for the scrapheap unless they are fought for, renewed and become self-sustaining. Whilst many have chosen to leave higher education and establish alternative schools of art and design, Chelsea Local seeks to make the most of the welfare state's legacy by working from within a formerly public institution. Using its resources, the studio is creating impact by building a richer public sphere that is rigorous and relevant in its immediacy because it is developed in collaboration with neighbourhood stakeholders. Proponent of the civic university John Goddard states that it is our, 'civic duty to engage with wider society on the local, national and global scales'[17]. Chelsea Local aims to pursue these aims by working with an internationally-diverse student base who are embedded in the local history and surrounding built environment, forming links with

external institutions and connecting with international debate on how to create more liveable futures. It strikes us as a right and proper that this is the answer to the question, 'What are universities for'?

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QUALITY OF LIFE IN URBAN VILLAGES OF DELHI: IMPACT OF URBANIZATION AND CITY GROWTH

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INTRODUCTION

The world is urbanising at an unprecedented pace, with population growth and increasing number of people shifting from rural to urban areas in search of better quality of life; cities have no option but to expand their territory physically. In 2016, an estimated 54.5 percent of the world's population lived in the urban settlements.[1] By 2030, urban areas are projected to house sixty percent of people globally, and one in every three people will live in cities with at least half a million inhabitants.[2]

Although urbanisation is considered as a positive development, as it can make the economy of the area stronger leading to prosperity; many developing nations are not prepared for the rapid and exponential urbanisation and the challenges it brings along. Such rapid urbanisation and physical growth both horizontally and vertically put a direct load on the infrastructure, economy, and environment of the urban areas in the developing world. As the cities spread they engulf the agricultural lands and the rural hinterlands in the process. This leads to rural villages losing their agricultural land to the government or private developers for urban expansion to cater to the growing needs of land for urban settlers. The resultant is the formation of an "urban village," a settlement which is forced to a rapid change of adapting to urbanisation.

These urban villages of the developing world bear a stark contrast to the same term whose concept developed during 1980's in Britain as a response to decentralisation and sprawl in the developed countries. Urban villages in the developed countries are ideal villages within an urban setting which are strategically planned self-contained medium density settlements, with emphasis on high quality of life. Examples include Saifi garden in Beirut–Lebanon, Greenwich Millennium Village in London and Santana Row in San Jose–California.

The urban villages of the developing countries are unruly, informal, high density, lacking basic amenities and infrastructure. They have a low quality of life with the high migrant population. The government acquires the agricultural land for the city growth leaving the rural inhabitants without any choice but to move to urban ways of life for their sustenance. These types of settlement pattern within the cities and urban settlements are evident all over the developing world be it the Asian countries like China (Shenzhen, Guangzhou) and India (Delhi, Hyderabad, Bangalore, Mumbai), African countries of Nigeria, Nairobi or the Latin American nations of Brazil and Mexico.

DELHI: URBANISATION AND GROWTH

The national capital territory of Delhi is now the world's second largest urban agglomeration with over twenty-six million inhabitants.[3]

Delhi's urban growth started after India gained Independence in 1947 when there was a sudden growth in the population of Delhi with refugees from Pakistan coming to settle in. A side effect to this was a vast

number of skilled and unskilled construction labourers coming to the city, owing to the government's fledgeling development drive. The census of 1951 reveals a decadal growth rate of 107%. With the rate of population growth being so high, Delhi engulfed the adjacent rural areas to cater to its rising urban population. New offices, institutions, residential colonies were being designed then as a part of its nation-building initiatives. The government began acquiring land around Delhi to settle the burgeoning population. Land of around forty-eight villages was acquired in the period 1951- 61, mostly to develop refugee colonies.

Since then, the urban area of Delhi has expanded from 201 sq.kms in 1951 to 1113 sq.kms in 2011.[4] It is interesting to note that currently seventy-five percent of the total area of the city of Delhi falls under the urban jurisdiction and 97.5% of the inhabitants reside in the urban areas.[5] The urban population density has more than doubled in the last sixty years from 7150 in the year 1951 to 14700 persons per square kilometre in 2011.[6] All these factors continue to exert much pressure on the housing, civic infrastructure, governance and quality of life.

ORIGINS OF URBAN VILLAGE

The origin of the urban village dates back to the British colonial era when they relocated some of the villages while building Delhi as its colonial capital in India. Later, instead of shifting the whole of the village they acquired just their agricultural lands circumscribing the village habitation within the "Lal Dora" literally meaning "red thread". The land earmarked for village abadi (population) and the agricultural land of the village was duly demarcated in the land settlement of 1908-09, and the abadi site was circumscribed in the village map in red ink.[7] The land falling within Lal Dora was not assessed to land revenue. Those falling outside the village abadi (Lal Dora) were meant for a purpose connected with agriculture and are subject to Land revenue.[8] Figure 1 illustrates the various stages that a village goes through during its transformation to an urban village.

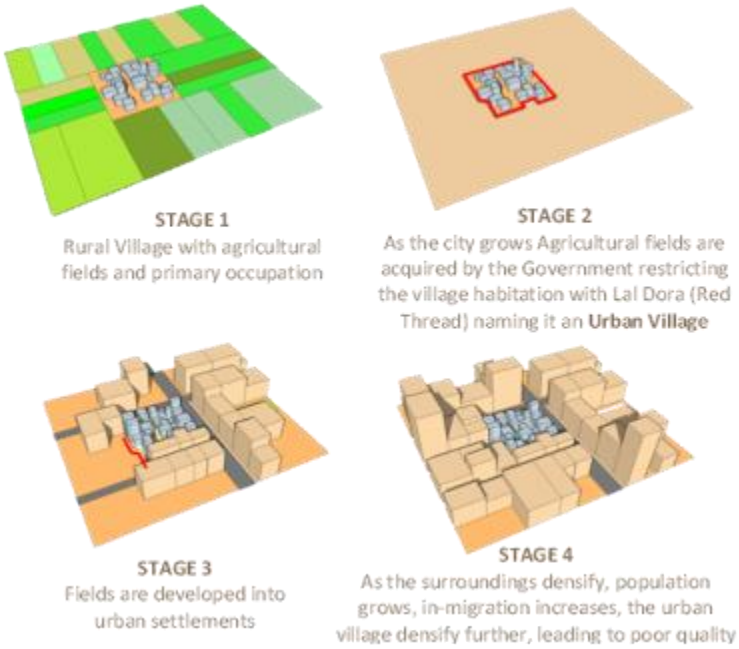

Figure 1. Various stages in the development of an urban village

Lal Dora was not entirely exempt from the building bye-laws but there were no strict construction norms and regulations, as regulated under the Delhi municipal act. This was mostly taken as having no building bye-laws as no one ever checked the areas within the Lal Dora. Moreover, there is still no need to apply for the building sanction plans within the Lal Dora.

The drive of acquiring agricultural land and earmarking Lal Dora regions hastened after independence. As a result, the number of urban villages increased from forty-seven in 1951 to 135 in 2011.[9] This expansion of the city has had physical and socio-economic implications on the rural areas for generations.

VILLAGE OF MASJID MOTH

This study dwells on the quality of life and the issues that the inhabitants of one of the oldest urban villages in Delhi face. The condition of the village of Masjid Moth and the quality of life that the residents lead resonates with not only the urban villages in Delhi but also in other parts of India and the developing world.

The village is located in South Delhi and derives its name from the sixteen-century mosque – Moth ki Masjid, around which the village settlement came up. Primarily tobacco fields surrounded the village, and Villagers were traditionally relying on agriculture and agriculture-related activities. Like many villages in and around Delhi, Masjid Moth village was also given the Lal Dora area status as Delhi expanded. The situation changed with the large-scale acquisition of their fields and farms at a meagre compensation rate during the 1950s and 1960s by Delhi Development Authority and Delhi Land and Finance (DLF) Ltd., a real estate developer, for the planned extension of South Delhi. The agricultural land that was acquired was used to build one of the prime residential localities for the well-off in Delhi. Figure 2 shows the Lal Dora boundaries of the urban village of Masjid Moth sandwiched by planned residential colonies.

Figure 2. Satellite image of Masjid Moth village demarcating the Lal Dora area.

Quality of Life in the Urban Village of Masjid Moth

With the loss of their fields and space for agriculture-related activities, the villagers lost their traditional agricultural-cum-cattle based livelihood and were restricted within the confines of Lal Dora. The sudden shift from rural to urban lifestyle was a difficult change to adapt. With a nominal compensation that the villagers got for their agricultural land and the limited knowledge of the urban occupations, some of the villagers opened shops, and some started small household industries. Many of them further sold their property to other developers to make instant money for survival while others started renting a part of their property to migrants at cheap rates.

With constant in migration, from almost all parts of India and primarily North Indian states of Uttar Pradesh and Bihar, the urban village of Masjid moth is an amalgamation of cultures. Currently, the migrant population has outnumbered the original villagers. These migrants range from working force to students who come to Delhi in search of better prospects – Figure 3 further enlists the reasons for the migration. The migrant population today form an essential part of the urban village with villagers and migrants both relying on each other. Sandwiched between the high-class residential urban developments, Masjid Moth provides the best alternative for housing to the migrant population at affordable rates within the area, and in turn, the villagers generate a substantial income from renting their informal housing units.

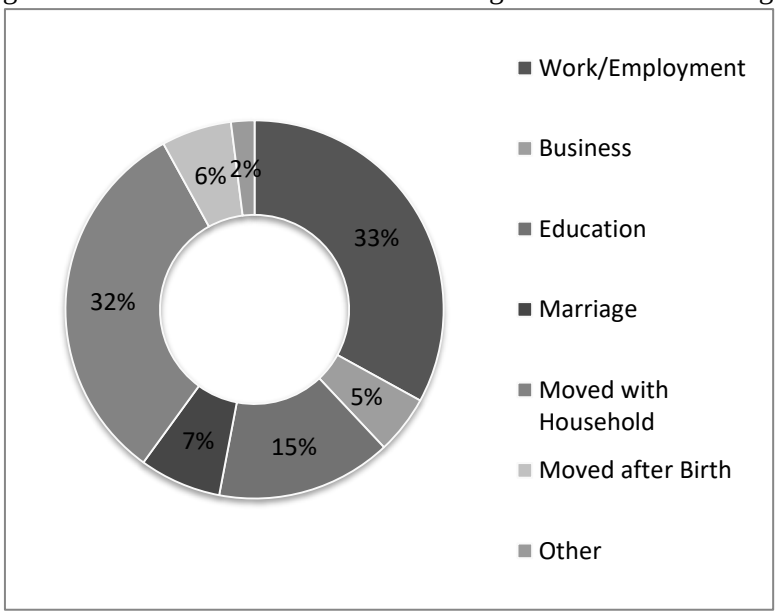

Figure 3. Chart showing reasons for migration into the Masjid Moth Village

The urban villages cater to the housing needs of lower and middle class, and this is very evident from the buildings itself. The lower class houses are more cramped with poor services; whereas the newer built structures to cater to the middle classes are built smartly with better elevations more floor area to get better rentals(Figure 4). As the village area is confined horizontally within its Lal Dora boundary, it is growing vertically, as illustrated in Figure 5. Owing to lack of building regulations and exemption from getting building plans sanctioned by the local authorities, the newer buildings have five floors on an average. Unplanned construction activities with the poor construction quality, encroachments and commercialisation of most premises can be seen within the village (Figure 6).

The unplanned nature of integration has led to physical and functional transformation causing degradation in the living conditions. The village area has turned into valuable commercial space and very high-density dwellings for the migrants with appalling conditions for living. Gradually all the vacant pockets of land have filled up by haphazard developments; there are new constructions or expansions happening on a daily basis. Many of the houses have little or no light and ventilation making them inhabitable.

Figure 4. A visual comparison of village houses

Figure 5. Vertically growing urban village of Masjid Moth

Figure 6. Overnight rampant constructions and additions to existing buildings

The Urban Villages are repositories of the heritage of many earlier settlements of Delhi – vernacular architecture, historical monuments and cultural traditions yet the traditionally styled buildings are being replaced by with the modern ones. The village of Masjid Moth houses "Moth ki Masjid", a sixteenth-century mosque that has been declared to be of national importance Under the Ancient Monuments and Archeological Sites and Remains Act, 1958. Under this act, no construction is permitted within hundred

meters of the monument. Any repair, addition or alteration and construction/reconstruction within these areas need prior approval of the Archeological Survey of India. However, all the rules have been overlooked, with new constructions, alterations are being done till this date, even in the adjacent zone. This condition adds on to the deteriorated state of the mosque (Figure 7).

Figure 7. Construction activity and buildings adjacent to the protected "Moth ki Masjid."

There is excessive commercialisation within the village. Almost forty percent of the buildings have some form of commercial activity going on. The small-scale local daily needs market has today taken the shape of substantial multi-storied buildings, with a shopping arcade and office spaces leading to increased mixed land use pattern (Figure 8).

Figure 8. Local market is not a multi-storied commercial hub

The village streets have their distinct characteristics and serve various functions. Most of the narrow village style streets are one and a half to two meters wide yet are encroached by parked vehicles, jutting out staircases and cantilever projections further narrowing them (Figure 9). Some streets have overflowing or clogged sewers and drain. While some still show the presence of social bonding between the villagers as they are used for holding small private gatherings like a pre-marriage ritual or religious meetings, owing to the lack of community spaces. Although the migrant population is more alienated towards these rituals and practices, many find it annoying and a nuisance but cannot do anything about it.

Few wider streets in the village turn into an informal weekly market every Thursday. This informal market is a weekly celebration where the villagers do not just buy their groceries but also have street food and do some shopping.

Figure 9. Condition of village streets and alleys

There is a lack of parks and open spaces. The few open pockets that are there are adjoining the posh residential area to maintain some degree of buffer but are not well maintained. Most of the village children use the streets or their terraces as their playgrounds. Villagers use the open spaces and parks for washing and drying their clothes and utensils, storing constructions material like bricks & sand, dumping garbage, and similar activities

With the growing urbanisation within the village and increasing population, the demand for power supply has increased manifold. Urbanisation has led to the use of newer electronic items like air conditioners, televisions, refrigerator within the village. The growing power needs require growing supply too. However, the supply is met by stealing it from the electric poles. The random and exposed Power-lines close to buildings pose a danger of electric shocks, electrocution and fires. Many of such incidents have already occurred in the past.

CONCLUDING REMARKS & RECOMMENDATIONS

Urbanisation and city growth is bound to happen, so shall the conversion of rural areas into urban ones. The force of urbanisation generated by Delhi's rapid growth has had a substantial impact on the land and the villagers. The most prominent being the conversion of rural villages into urban villages, leading to change the occupational structure and the livelihood of the villagers.

However, it is important to realise that despite being under constant urban influence from neighbouring urbanised areas, urban villages retain many of the characteristics of a rural village. These urban villages provide a unique identity to the urban fabric of the city; they are resilient, culturally grounded, inclusive, alive, and flexible. Many of the urban villages have over the years developed themselves into self-sustained economies with retail, small business, industries, housing, healthcare and education facilities all included whether or not in an elaborate manner. Walking through the urban villages of Delhi one can understand that every urban village is unique, yet they all have commonalities in their growth pattern. Conversion into urban villages has ripped the villagers of their fundamental right to living in a clean, healthy environment with proper civic infrastructure. Over the span of time, these urban villages have densified, commercialised and grown into settlements which lack infrastructure and have a poor quality of life.

Therefore, there is a need for a Comprehensive Redevelopment Plan for the urban villages in Delhi including the village of Masjid Moth, which reflects the village characteristics within the urban form and retains heritage and residential character of the village in a manner so that the villagers are not estranged again.

This can be achieved only by generating general awareness amongst the villagers and involving them in the development plan and other policy changes. It is also essential to keep a strict check on the mixed land use development which is rapidly taking over the village. Norms should be made in this regard so that the mixed land use can be limited to specific areas to minimise the problems associated with it. Encroachments and poor quality construction should be taken down, and civic services should be upgraded with immediate effect. Also, there is a need to prepare a separate set of bye-laws for the urban villages while making building sanctioning process easier to promote villagers to get sanctions before construction to regulate the future development. Land pooling can be an option in the case of the old dilapidated building and adjoining residences to develop habitable housing.

Also, it is crucial to understand that making changes to an old, dense urban village is not easy. In fact getting villagers on board with the developmental changes will be a task in itself. The villagers will resist another radical change owing to their past experiences. The policy changes and development control hence need to be gradual yet steady while orienting and counselling the villagers on the need to do so for a better future and improved quality of life.

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Cities, Communities and Homes: Is the Urban Future Livable?
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INFRASTRUCTURES UNDER TRANSFORMATION AS VOLATILE COLLECTIVE SPACES

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INTRODUCTION AND STARTING POSITION

In this article, the conference question, "Is the Urban Future Livable?", is taken as a challenge to start imagining the future livability of our cities from embracing the complexity and instability of actual processes taking place in the city.[1] The authors argue that thinking about "cities, communities and homes" is to have a starting point in collective spaces particularly when meeting infrastructures: those urban spaces which discontinuously and independently from domain or morphological configurations[2] have the capacity to absorb uses and appropriations by a multiplicity of individuals or groups[3] that have little or *no common ground*, inhabitants that act per contradictive logics, but that co-exist *de facto* in space, generating their own territories by presence, agency or claim.[4] This frame has the potentiality to put speculations on the architectural level on a new perspective.

Collective spaces play a crucial role in urban livability, framing manifestations and potentially fostering most of the parameters implied in quality of life: long and heathy life, knowledge, a decent standard of living.[5] Moreover, these spaces constitute the portion of urban space in which probably urban processes manifest most dramatically.[6] The term ¨Collective" comes from Middle French *collectif*, from Latin *collectus* (past participle of *colligere*, "**to collect**"): *com-+legere*, "to gather together". [7] It is a highly charged term, broadly used in a variety of fields with social, political or economic connotations, being usually associated to a certain level of "consensus" among people.[8] In architecture, it recalls projects in which physical forms and social engineering are related, with the phalanstery as paradigmatic example; or more simply, to coordinated actions with a spatial outcome.[9] The authors step away from the historically controversial aspects of the term and from "coordination" as starting point, to focus on the basic condition of "co-existence". Co-existence that may imply, in second term, an (un)conscious aggregation or interaction of individual parts or a certain level of deliberate association among actors (or broadly, *actants*)[10] ranging from individual or private actions; to groups, coordination or commonality, ultimately forming "communities" with a clear "shared identity" or "common goal". The level of interaction goes beyond spatial factors to embrace a complex interrelation of material, symbolic and cultural[11] aspects that are very hard to track (in the sense of pinpointing exactly what ultimately triggers someone to take a nap in a park, or on the contrary, search for a companion to cross it at night). The authors enquires "spaces" not as something that "brings parts together" (or pushes the generation of consensus on behavior, for example), but as something that diffusively "supports" the complex co-existence that take place in contemporary cities; being "collective spaces" a part of "urban space", where those complex processes condense and acquire temporal-spatial outcomes that can indeed be observed.

"Infrastructures" is a highly-charged concept as well, being commonly understood as systems that enable the circulation of fluctuant dynamics such as goods, people, knowledge, meaning and power. In recent years, their study has exceeded the technical aspects to include sociological ones, from a variety of fields such as urban sociology, geography and anthropology, with these qualities being put under question by emerging soft-infrastructures.[12] To embrace the newly reached level of complexity that infrastructures imply, the strategy is here to use "space" to study the material manifestations of those dynamics, the processes they involve and the discussions around them. To this aim, the authors approach them in Deleuze and Guattari[13] sense, as *material-symbolic assemblages*, "*compounds or devices that include qualities and parameters: "qualities" as emergent properties (a whole with parts that interact and generate new capabilities inherent to this whole), discompose ability (the parts can be detached from each other), material and expressive components; and "parameters" including territorialisation and coding (its identity is defined by the parameters at any point in time).*"[14] The accent is here put on those mobility infrastructures that have a strong relationship with the urban fabric in a direct way, in the frame of a long-standing history of interactions that gets now resignified. As described by Shannon and Smets *"(...) initially, infrastructure was part and parcel of regional and urban structuring. It obeyed conditions imposed by the environment (...) and gave way to building form around it. Infrastructural systems acted as ordering devices, they were conceived as integrated man-made landscapes. (...) However, in the modern era, infrastructure (...) became progressively disconnected from its environ as it was turned into a transport system of its own."*[15] They go on into outlining the extremely complex situation reached in the last decades, in which infrastructures are going back to the domain of urbanists, while they are heavily criticized from environmental and social point of view, and their increase and intensification of use is triggered by the overall urbanization.[16]

Studies like these, start from the concreteness of infrastructures to touch upon a variety of issues that put in tension contemporary urbanization processes and the urgency to rethink the tools to approach them. Global geopolitical reconfigurations, massive migrations, resource scarcity, just to mention a few, put in evidence the increasing uncertainty level and the incapability to control urban processes. Infrastructures and collective spaces put this in evidence, furthermore, areas of programmatic vacancy associated to infrastructure nodes or metropolitan (inner)peripheries are commonly taken as "conflictive areas", reduced to non-places with problems "to solve" or at most, as resources for "future development". On the contrary, these crucial urban elements have the capacity to act as buffer zones, intermittent or fluctuant territories absorbing contradictory forces, today. "How" this happens needs to be investigated to overcome this restricted vision. To this purpose, the authors proposes to merge infrastructures and collective spaces into a single layer to study them, and therefore cities, as **manifestations of fluctuant dynamics with spatial qualities that aggregate and interact in time.** A conceptual boost is triggered by transferring to cities terms like **(morpho)genesis**, as articulated by De Landa, Deleuze and Derrida[17] for non-biological processes, particularly putting the accent in the constant struggles for adaptation and evolution, propelled by unpredictable influxes from the exterior world, in relation to interior processes; and **evolution**, as non-linear process in which unstable tensions fostered by different and contradictory parameters generate the merge and selection of resources from a pool of varied elements.[18] Infrastructures and collective spaces are ultimately extremely reactive entities that can cope with the changes of pressing forces shaping urban space.

These elements have been independently targeted by technical, urban and social studies, but its interrelation in terms of spatial outcomes is still pending a deep investigation. Enquiring them as **spatial, human** and **symbolic compounds**, [19] not as fixed conditions, but **under transformation, as volatile spaces**, namely as elements that "happen" in space, come together to define space, to define the quality of space for a more or less limited time, qualities that are *liable to change rapidly and unpredictably*.[20] Spatial processes and practices that generate a certain "heat" in space, a certain

intensity or significance, that can be partial, unstable, and temporal, but that gives quality to space, *constitute **qualities** in space*. (Figures 1-2)

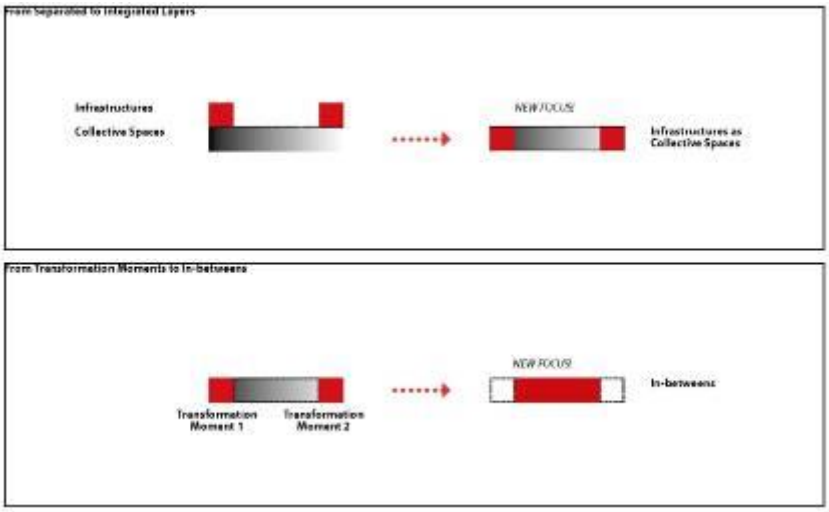

Figure 1. New focus.

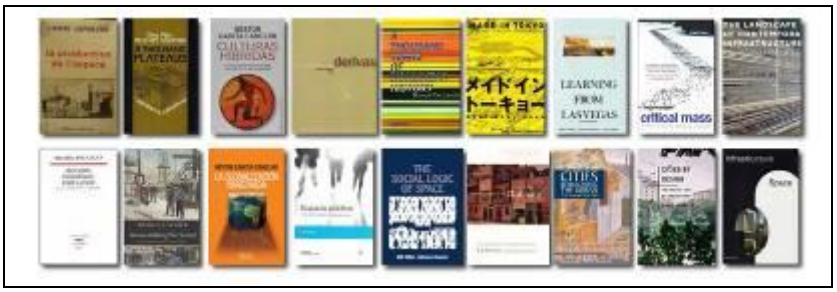

Figure 2. Theoretical Input.

GLÒRIES SQUARE AS CASE-STUDY

An extreme case of urban transformation is found in Glòries Square, Barcelona, Spain, in the sense of "activating a great variety of actors and processes".[21] Here, a great variety of qualities, spaces and scales can be spot. Simply, everything that can be imagined about mobility infrastructure under transformation has taken or is taking place in or around it. Glòries Square is situated in the geographical centre of Barcelona and linked to many metropolitan elements such as the potential green corridor between the city centre, the Ciutadella Park, and the Sagrera High Speed Train Station reaching the edge of the city; and it is part of several generations of urban development strategies linked to "urban centralities".[22] It was Cerdà who established for Glòries Square the long standing urban ambition of becoming the center of the city, the "centre of the world" for Catalan people.[23] On the contrary, the area developed inconsistently and residually, basically becoming the dumping place for all sort of urban infrastructures: train tracks, fly-overs, inner-city high ways, etc.[24] Paradoxically, this became supporting condition for the emergence of a great variety of temporal spatial manifestations: markets, both legal and illegal, physical alterations of buildings, occupations, conflicts, life… "volatile qualities". The current transformation process includes the replacement of these contradictory infrastructural elements (on and upper surface roads) for underground tunnels (that will pass under existing train tracks "tunnels" that originally lay on ground level but were covered generating a sort of artificial hill) and the constitution of a park and a series of building in the edges.

The process responds to historical demands for a "solution" for Glòries Square as overall city expectation along with communal claims for public housing and facilities for the four surrounding neighborhoods. These claims were incarnated by the neighbors' associations and after an extremely complicated negotiation process, a long series of projects, controversies of all kind and several changes of plans, a "Commitment on Glòries" was signed in 2007, a commission for the surveillance of the works was established, and the "final" project reached a level of consensus being left in hands of the municipality[25] and the neighbors' associations, up to the shape it is now taking with works being launched in 2015. What is recurrently observed in the process and manifest in the media, is an explicit attempt by the State to **domesticate** the space, aiming to simplify and control it to facilitate its **practicability, administration and the planned use by regular citizens**. (Figures 3-11)

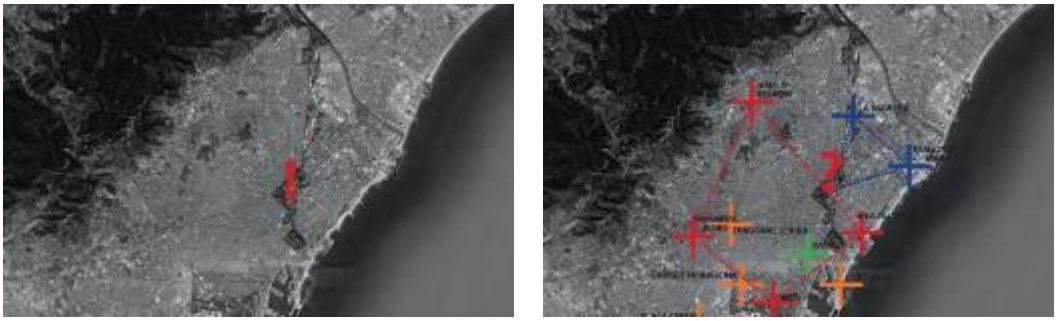

Figure 3. Glòries Square green corridor and "centralities". Own production based on Institut Cartogràfic i Geològic de Catalunya.

Figure 4.Timeline for Barcelona with a focus in Glòries Square. While this is not the place to go into detail on every event, the overall view of the timeline give a sense of the complexity of material and immaterial facts that lead to the current situation. Own production based on different sources, see references.

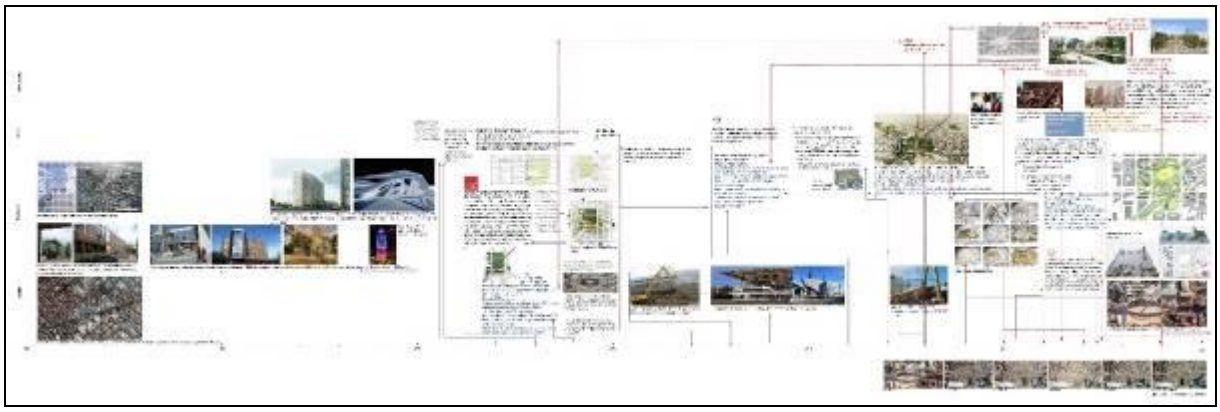

Figure 5.Timeline of Glòries Square development in recent years. While this is not the place to go into detail on every event, the zoom into the speed-up transformation of Glòries since the Olympic Games, putting in evidence the different levels and back-and-forth in discussions, project and works serve as a base for further speculations. Own production based on different sources, see references.

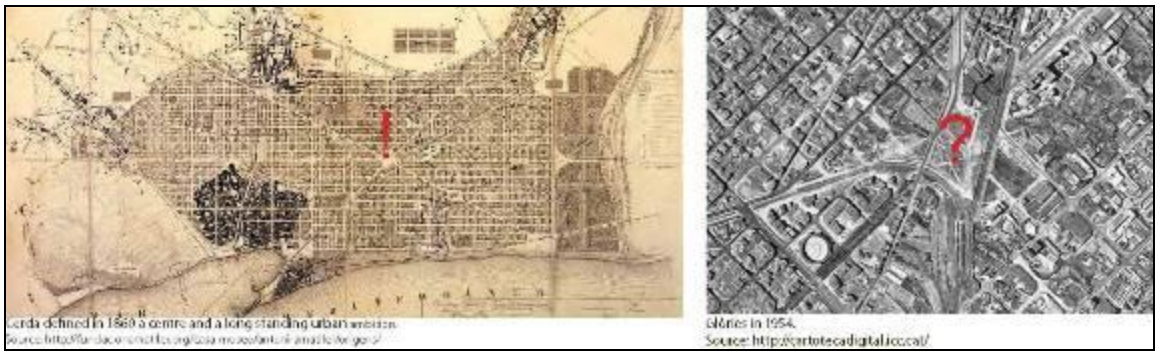

Figure 6. From Cerdá imposing a "centre" ambition to "reality" imposing an undefined space. Source: Own production based on Institut Cartogràfic i Geològic de Catalunya

Figure 7. Old Market and Demolitions in 2015. Source: El periodico.com

Figure 8. New tunnel imagined for Glòries Square. Source: Ajuntament de Barcelona.

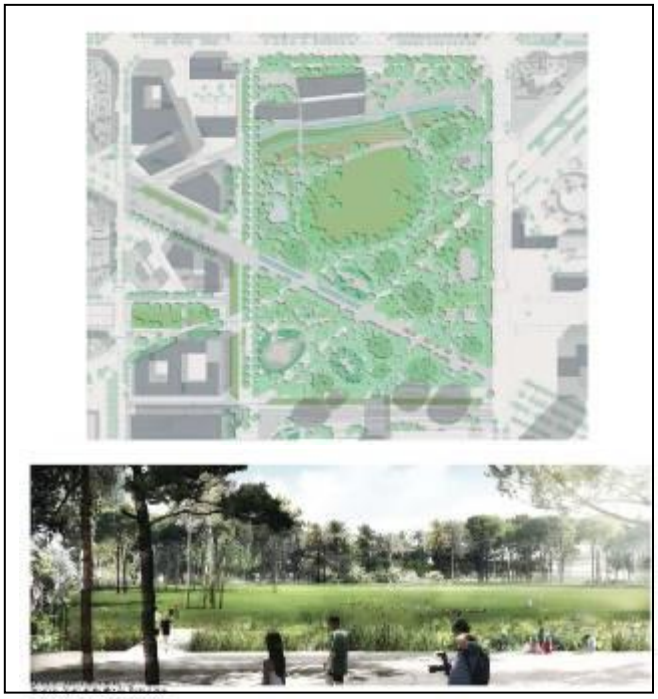

Figure 9. Winning proposal for the park by UTE Agence Ter & Ana Coello de Llobet. Source: Ajuntament de Barcelona.

Figure 10 Glòries Square coexistence at large scale.

Figure 11. Glòries Square coexistence at small scale.

URBAN EXPLORATIONS

The authors have initially identified that the pursue of control and simplification of elements at stake has lead to alter space in a way that complexities, expressed in existent "uncontrolable" qualities, are deliberately dismissed or overwritten. It is the aim now to expose such processes, to study their implications and ultimately to denounce their negative effects on urban life, on urbanity, on what

makes cities "urban"; by looking to existent qualities from a different point of view… starting from their volative qualities.

Three Spheres

A methodology is currently being tested to spot processes taking place in collective spaces, recognize their intensity, that is the way they articulate different components, and their volatile qualities, that is their instability and proclivity to change. It is crucial to the authors to identify those thresholds where quantitative changes become quality ones, denoting the dynamic status of spatial-materiality that can be caught in act *"in its search of new intensities and new spaces of possibilities"*.[26] The action frame are the "In-betweens", the processes, not the fixed Transformation Moments. Bridging theory and practice, with the "collective" as co-presence of users that can eventually interact among them but temporarily co-exist in space generating processes and territorialities that eventually overlap (with different levels of tension); the interest is to unveil and explore the character of collective spaces as multilayered, overlapping, unexpected, and fluctuating.

To this end, three "**Spheres**" are used: "***Spatial*** *Configurations*", where the focus is on the "Material, Domain and Programmatic Components", the actual definition of space under transformation; "*Marks of* ***Human*** *Presence*", where the emergent spatial outcomes of "Uses, Appropriations and Atmospheres" are studied; and "*Spatially Localized* ***Voices***", in which **symbolic** aspects brought in by different stakeholders, such as "Engagement, Discussions, Projects", and "Imaginaries" linking material and immaterial aspects. *Can the convergence of all these aspects be observed in time and in space? Does it constitute volatile collective spaces?* (Figure 12)

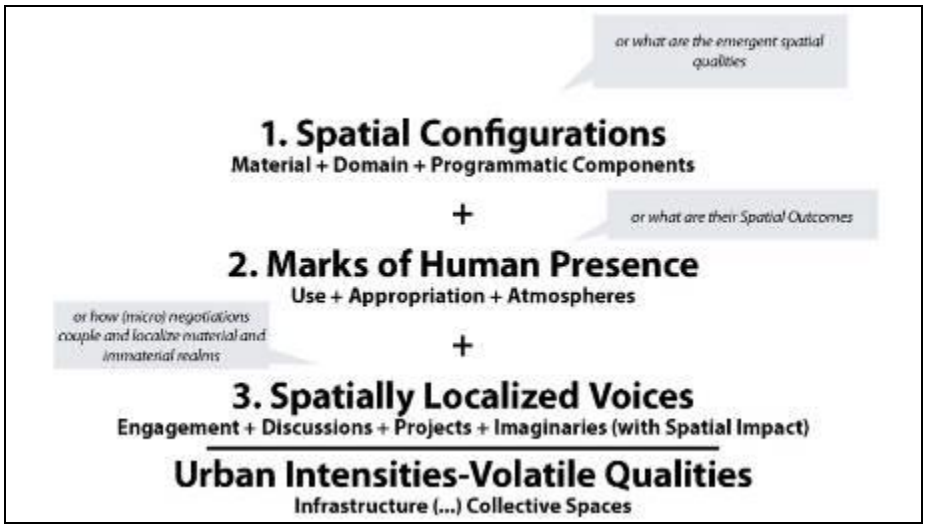

Figure 12. Three Spheres articulated by the methodology.

Exploring Glòries Square

When deploying the methodology in Glòries Square, it is crucial to consider the different processes that determined its transformation along time from a point that is logistically manageable in terms of documentation and sources, particularly because this is not an historical research. Zooming in, we are now somewhere between "**2015**", when the tunnels works began after the demolition of the upper circulation and the previsions for "**2017**" and "**2019**" when the local government expects to terminate the constructions of tunnels and park, respectively; previsions that are already under question due to technical, financial and political issues.[27] (Figures 13-15)

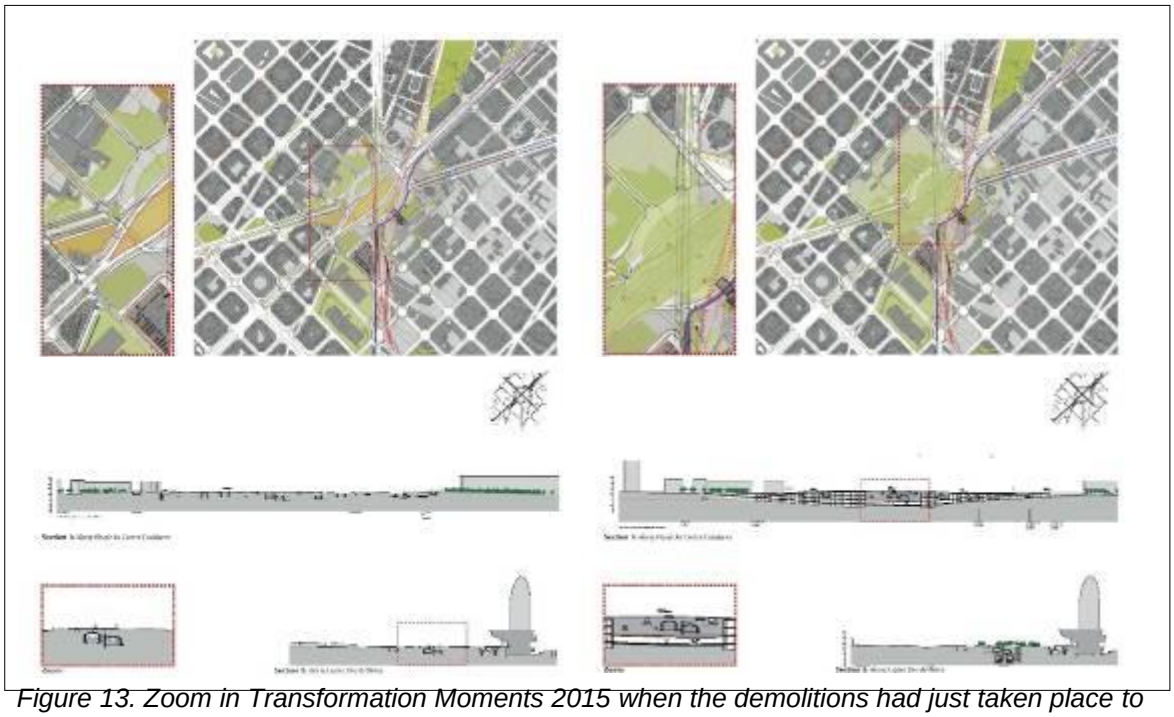

Figure 13. Zoom in Transformation Moments 2015 when the demolitions had just taken place to remove elevated elements; and in 2017, when the first tunnel is expected to be completed. This last prevision is not completed and currently pending a definition. The drawings show the main spatial and infrastructural elements as "cleared up" in the first case, and as increased underground presence, in the second. Source: Own production based on document sources for the park competition, Ajuntament de Barcelona.

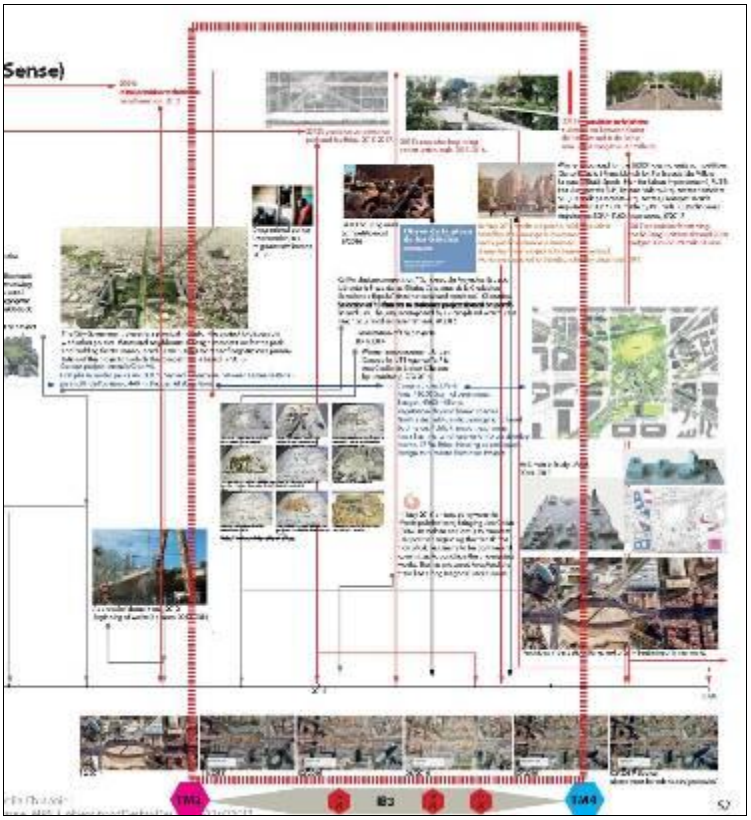

Figure 14. Timeline begins to work as Actor Network (In Latour's Sense), when interrelating material, human, symbolic and discursive elements. This network is used to define the research frame.

Figure 15. Periodic checkups and intensive fieldwork.

Spatial Configurations

This sphere gathers a series of categories to study space not from the usual description of built space but starting from open spaces. Different tools studying the interrelations, fluctuations in time and interfaces, are used to target simultaneously a variety of scales. An overview of the different aspects under study include: material and property edges, accessibility, permeability, along with infrastructural elements at under, ground and upper levels, accessibility, materiality, etc. When looking at the "material edge", namely, the open area or volume that is defined by built elements, a "simplification" is verified: it is evident that the actual line that determines the edge of open spaces went from having a variety of intricate delimitations and irregularities into having a clearly defined straight limit. Similar processes can be found when looking at the property edge and infrastructural elements such as roads, bridges and tunnels. (Figures 16-19)

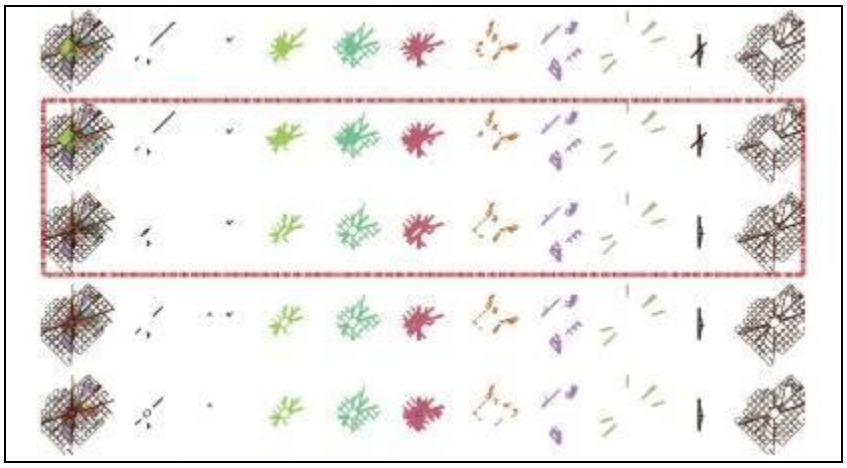

Figure 16. Spatial Configurations: Aspects, relation and fluctuation in time. Own production based on Institut Cartogràfic i Geològic de Catalunya.

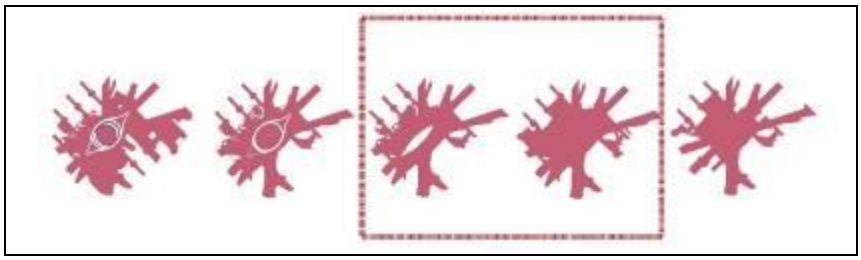

Figure 17. Zoom on Material Edge, showing the open area or volume that is defined by built elements: a shift from variety to regularity can be spot in the frame understudy (2015-2017). Own production based on Institut Cartogràfic i Geològic de Catalunya.

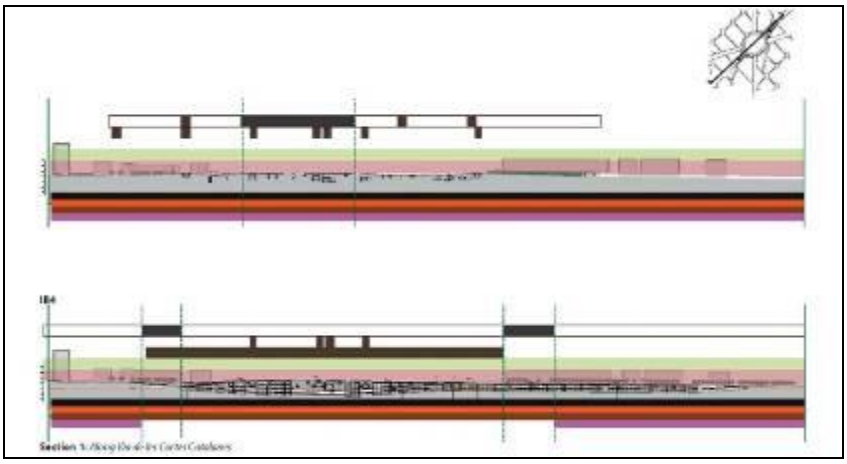

Figure 18. Sections of fluctuation and relations among spatial configurations aspects. Own production based on Institut Cartogràfic i Geològic de Catalunya.

Figure 19. Relation between spatial configurations elements and interfaces.

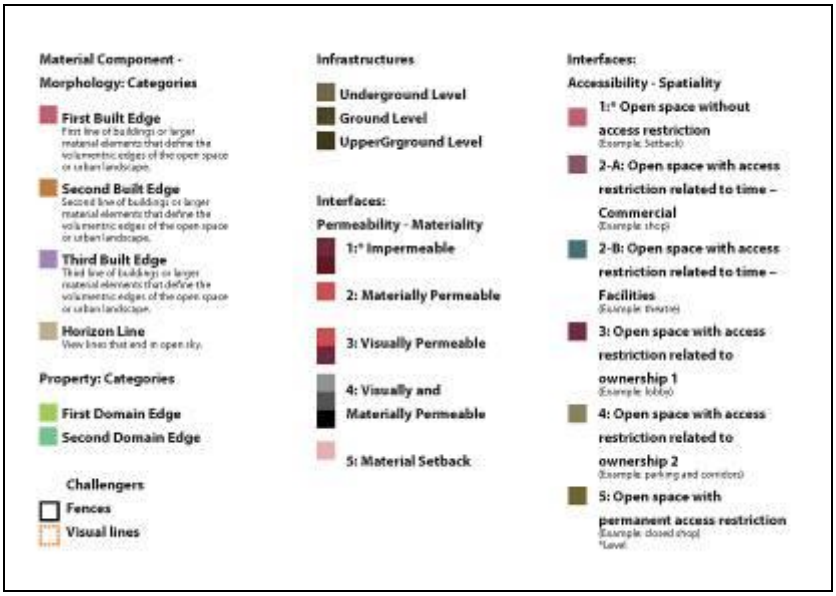

Figure 20 Legent spatial configurations elements and interfaces.

Marks of Human Appropriation

This is the observation of the appropriation processes and their spatial outcomes both related or independently from the spatial configurations.[28]

To represent some critical aspects, one of the most evident alterations of the territorial organization of the collective space of Glòries Square, related to the slow reconfiguration of the park edges is the relocation of a primary school. The "Escola Les Encants" originally faced the open space and on-surface and elevated roads; in 2015 it got moved to a new building that turns its back to Glòries Square to face a busy back street.[29] The front courtyard, informal playgrounds, meeting places between parents and kids, city and facility, used to extend spontaneously towards the open space, constituting an ambivalent space that belonged to both realms. Now, the entrance is reduced to a frontal setback of the building from a busy street and the extensions for outside playing needs to be formally encouraged by planned activities in a quitter side street. The formal inner-courtyard of the school borders the future park but it is rather hard to imagine that it will naturally extend to it due to the scale and target users as materialized by its thick fence. (Figures 20)

A critical case is the "*manteros"* market,[30] the illegal street markets in which usually cheap, fake branded, low quality or plainly garbage products are exchanged. In this case, the investigation is done on alternative occupation logics and particularly the time factor as crucial component of appropriations of collective spaces. The commercial exchange of products in not-assigned spaces is illegal in Barcelona, so these markets deploy and retract based on the level and tolerance of control forces. "Deployment" are here the moments in which goods are taken out and exhibited and traded, while "retractions" are when goods are suddenly packed back, and the market goes into a "latent" state, in which they are hidden and carried around in all sort of adapted vehicles, such as suitcases, supermarket and shopping carts or baby carriages. People involved in this process try to *camouflage* among the "formal" market users and it is extremely interesting to observe how sellers, potential buyers and supporters develop a sort of tacit agreement for defining a kind of rhythm, to determine when it is appropriate for the market to happen, while the size and extension depends on the time they get to accumulate. The "latent" stage is probably the most exciting, because, when connecting with it, the adrenaline building-up can be felt, while a certain level of dispersion in space can be registered. The urban space used during these moments is in fact larger than the market itself (market people stay

further away from each other, while stay connected by signs or phones), and if observed carefully, this "action" space gets "broken" by the constant crossing through of external actors, other aware or unaware urban users with their own agendas, for example, people walking through to get to a metro station, tourists taking pictures, etc. (Figures 21-24).

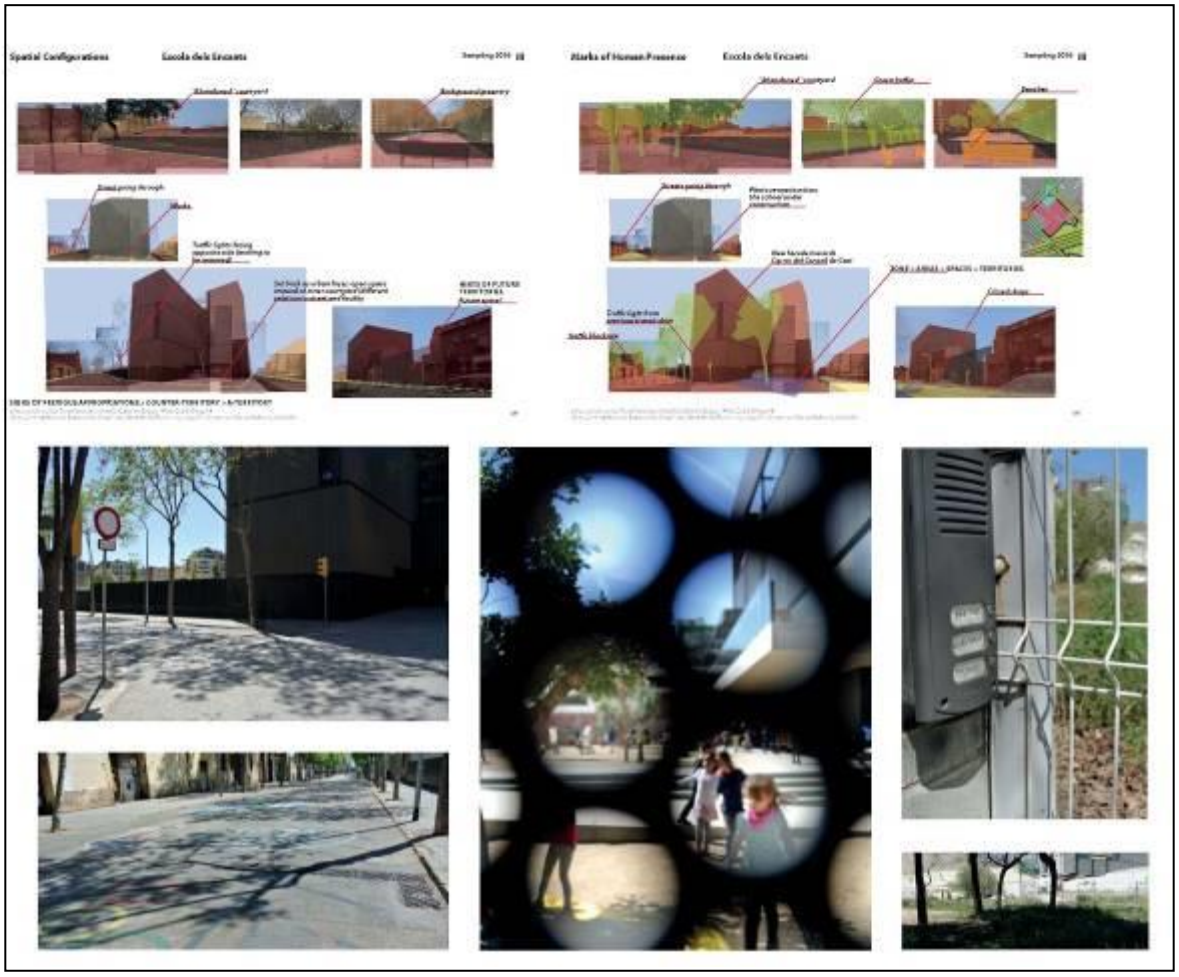

Figure 21. Case 1: "Escola Les Encants".

*Figure 22. Case 2: "*Manteros*" market to study temporal dynamics: Deployment.*

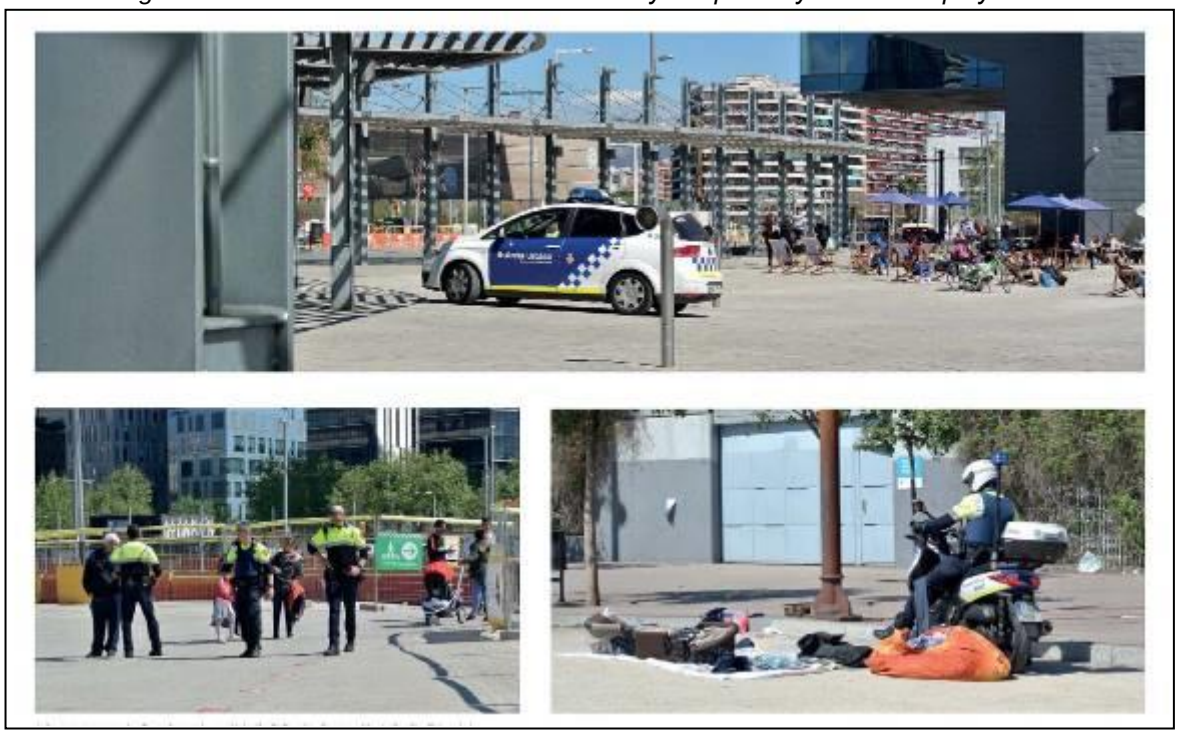

*Figure 23. Case 2: "*Manteros*" market to study temporal dynamics: Retraction.*

*Figure 24. Case 2: "*Manteros*" market to study temporal dynamics: external actors. These images constitute an illustrative picture, showing the dynamics of occupancy around "*manteros*" markets directly observed in space during fieldwork in 2016. Further development of the research will focus on the systematization of the mapping and representation techniques of such processes.*

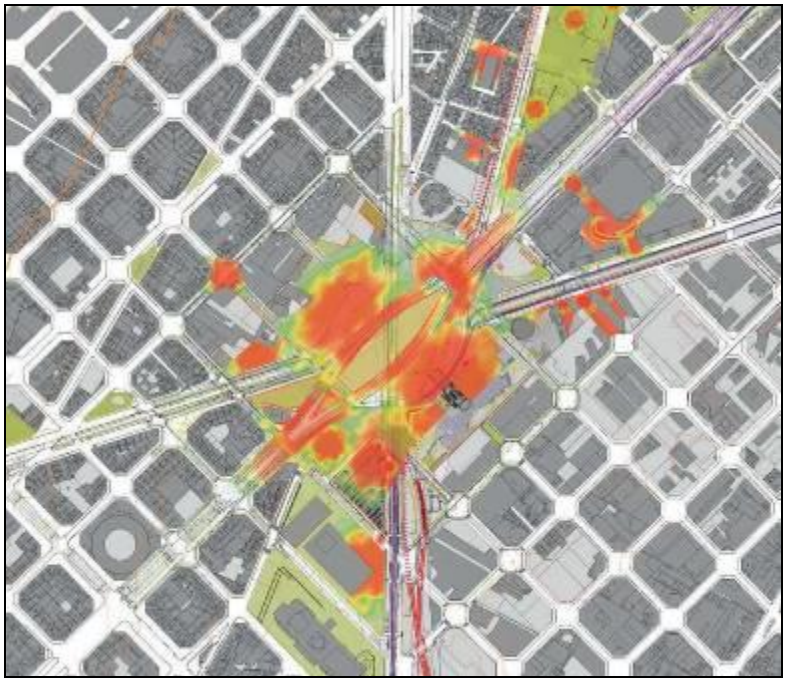

Figure 25. Heatmap: Marks of Human Presence in Glòries Square in 2015, 2016 and 2017. The drawing constitutes an illustrative picture, showing the accumulation of areas of intense presence and activity by a variety of actors along time. Further development of the research will focus on the systematization of the mapping and representation techniques. Own production based on Institut Cartogràfic i Geològic de Catalunya.

Spatially Localized Voices

The notion of territories acquires a predominant role in the understanding of the "collective", and its definition in highly controversial because it demands the consideration of all aspects, including cultural and symbolic ones. At this point, the main narratives or positions of the main stakeholders are brought in. This aspect constitutes probably the most difficult to address and sensitive point of the PhD-research, and where the most evident limitations emerge[31] and understanding it "from inside" is not even ventured. Nevertheless, the sole fact of putting symbolic components on the table and localizing them in space via its identification on the media, forces to move from "what" discussions are about, into **"where" discussions are about**, as well as helping moving from spaces to territories in a variety of senses: not only material-morphological territories, domain territories, programmatic territories, territories of appropriation, but also discussion territories are in constant change. (Figures 25-27)

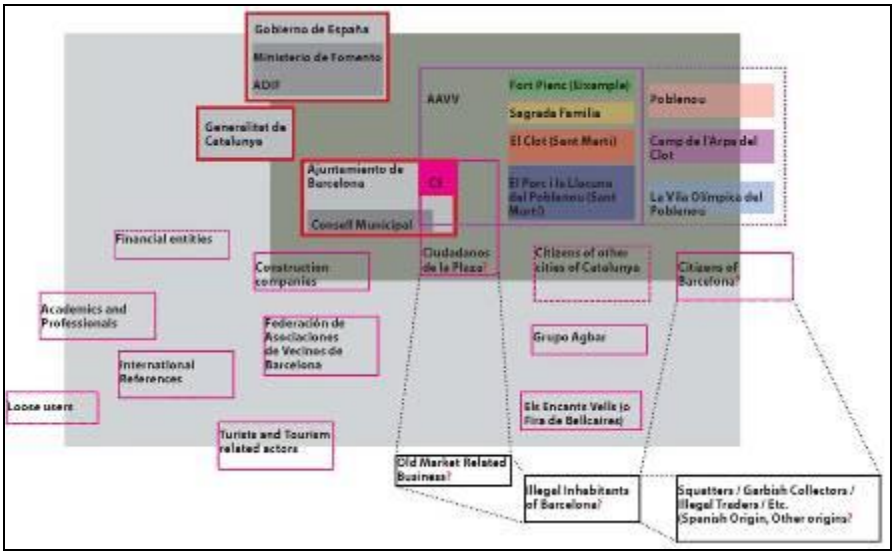

Figure 26. Stakeholders and "Comisión de Seguimiento" (CS - Surveillance Commission).

Figure 27. Spatially Localized Voices through the media.

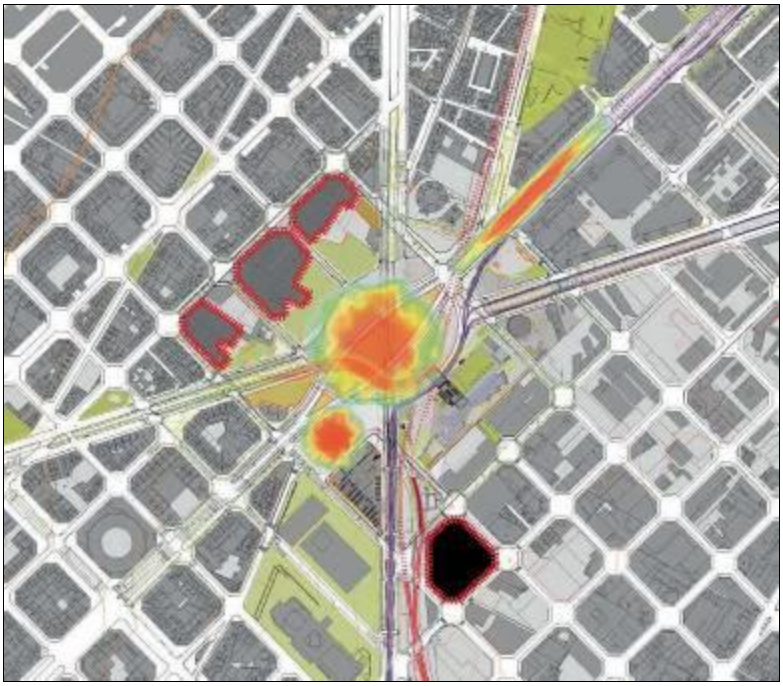

Figure 28. Heat map, gray zones and black holes of Spatially Localized Voices. The drawing constitutes an illustrative picture, showing the location of elements under discussion in the media, long with issues that escape the frames of Glòries "concern": "gray zones" and "black holes" around which vague or no reference in the media could be traced. Further development of the research will focus on the systematization of the mapping and representation techniques. Own production based on Institut Cartogràfic i Geològic de Catalunya.

SPARKS FOR DEBATE

Around the expressions used for describing the process (identified via interviews with local actors, and media analysis), a "problem-solving" approach can be detected, the intention to "redeem" this area, free it from its troubled character both social and materially and to "give it back" to the inhabitants by turning it into "the" centre of the city, linking neighbourhoods that were ones totally disconnected. The main risk that is run when engaging with this attitude is to attempt the domestication and simplification of space, as shown in the spatial configurations. Along with this, existent qualities are dismissed and little room is left to any kind of alternative urban process.

An other finding from observing the surrounding discourses, is that the process seems to be charged by certain tension among the stakeholders; an effort is made to use Glòries Square as an example on how cities "should be" developed. Probably also stressed by Barcelona's visibility worldwide. Within a particular history characterized by decades of open doors for international developers and the celebration of signature architecture,[32] it seems that "global" forces, multinational real estate capital, "top-down strategies", have been declared the enemy. This attitute runs the risk of putting too much pressure on "bottom-up strategies" (the representation of the park as an oasis, basically an "anti-urban" space for a variety of micro activities, such as urban farming, is a example of this); simplifying the participatory process and living out civic and representational qualities that are spontaneously linked to urban centres (there is for example no place for mass manifestations nor public building to manifest at.[33] Issues such as diversity, density and complexity may get reduced.

On top of the symbolic implications, there is also the operability of the official "fight" against speculation, and probably its overlook: beyond the good intentions of local administrations, when

taken into account the way urban development is established and operates in most parts of Barcelona, including paradigmatically the citycentre and the seefront, with the latest unveiling of its consequences for local and weaker sectors of the population,[34] along with its proximity and articulation to the mayor rezoning operation of the former industrial area of Poblenou into the 22@ "Innovation District"[35] and immense land resources towards Sagrera Station, it is rather to expect that such interventions will relaunch real estate operations in the North-East of the city as new frontier.[36]

From the point of view of the technical sustainability, it is to study closer if the immense financial-technical effort put on the demolition of existent elements (along with their qualities) and the construction of tunnels to hide and deny inner-cities infrastructures in a context of overwhelming flows of private vehicular traffic, is viable alternative.[37] Not to mention the question on the waste material and the recurrence of car-centered urbanism.

Infrastructure as collective spaces reveal as the contingent and instant intersection of the three spheres in the sense that they constitute the overlapping and superposition of a multiplicity of material and immaterial components in constant fluctuation. The internal qualities and the mutual interactions between spheres can be now further investigated in concrete terms, in the sense of trying to identify what triggers assemblage emerging conditions.

To start with, it is recurrently detected that collective spaces are related to the formation of (micro) territories that materialize, mark space, and are temporal in the sense that they indicate both actual past occupations of expected future appropriations of which partial hints can be caught (for example, the presence of a traffic light on a street that is not used anymore as observed in the school case). Secondly, that the uses and practices in space, along with the accumulation, dispersion, interaction or separation among users is highly related to the level of intimacy or exposure, and the perception of this, which is at its time tied to different (micro) atmospheres, spaces, or material fragments that emerge from the fluctuating spatial configurations. Further, spatial configurations, morphological and domain aspects are linked to distances, materialities, and levels of accessibility; along with the practices that they are able to support, enable, encourage of discourage, as a mix of objective components and the subjective perception of them. Moreover, the shift from programmes and uses, to appropriations and atmospheres brings about a certain density of relationships at the human level. Particularly, in the sense of manners and intensities of establishing those relations that are situated both physically and symbolically in space and in time.

It comes out from the research process up to now, that the overlapping and interaction of material-morphological spaces, domain spaces, programmatic space, spaces of appropriation, spaces under discussion, they all converge in what could be called Infrastructure Collective Spaces, with the notion of space giving room to collective territorial configurations as crucial components of urban environments. *Is the deep understanding of Infrastructure Collective Spaces what may bridge theoretical enquiries with potential practical implications?*

The authors advocate for the detection, description and investigation of these temporal spheres' intersections and the apprehension of those volatile urban processes condensed exemplarily in infrastructures under transformation as collective spaces. It seems feasible to think that through this, a new way to investigate urban space and the qualities of urban environments, particularly those related to infrastructures under transformations and collective spaces, may come to be. *Is this a way to pursue urban studies and design, in contrasts with the conception of development as static outcomes, in which in the name of a "perfect picture", the crystallization and extreme formalization become the ultimate goals. Is this a way to potentiate the appreciation of alternative urban realities and potentially lead designers to overcome a dichotomy between bottom-up and top-down approaches to move into more hybridized approaches?*[38] (Figure 28)

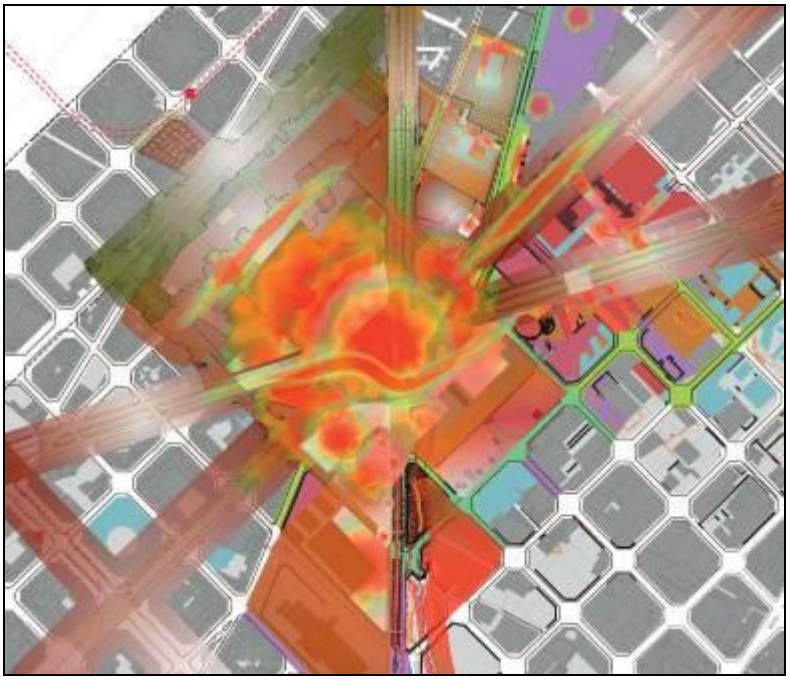

Figure 29. Overlapping spheres as volatile collective spaces. The drawing constitutes an illustrative picture, showing overlapping of the different aspects at stake in Infrastructure Collective Spaces. Further development of the research will focus on the systematization of the mapping and representation techniques. Own production based on Institut Cartogràfic i Geològic de Catalunya.

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[1] The authors are active members of the Research Group “Urban Projects, Collective Spaces & Local Identities” directed by Kris Scheerlinck and Yves Schoonjans at KU Leuven, in which the overall starting point is the development of insights on sustainable interactive regeneration and development of new urban strategies, in combination with the territorial organization of streetscapes, i.e. the interface between buildings and streets and how their inhabitants give meaning to them. Urban space, understood as a discontinuous collective space, where infrastructure in pivotal scale conditions performs actively, is studied from the intermediate-scale and a multiplicity of perspectives (formal, spatial, cultural among others). The PhD-research aims to put these complex variables in deep interrelation in order to generate integral insights on collective spaces. http://www.collectivespaces-kuleuven.be/?page_id=489

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[3] *Actans*, for Latour (Bruno Latour, *Reassembling the Social. An Introduction to Actor-Network-Theory*. Oxford: Oxford University Press, 2005); practicioners of space for Delgado (Delgado, Manuel*. La Ciudad Mentirosa. Fraude y Miseria del “Modelo Barcelona”*. Barcelona: Catarata, 2017); habitantes for Arroyo (Julio Arroyo, *Espacio público, Entre afirmaciones y desplazamientos*. Santa Fe: UNL, 2011); *Territoriantes* for Muñóz (Francesc Muñóz, *Urbanalization. Paisajes comunes, lugares globales*. Barcelona: GG, 2008) consumers of Hannigan (John Hannigan, *Fantasy City. Pleasure and profit in the postmodern metropolis*. Routledge. London, UK, 1998)

[4] Agency as the capacity to act. An example of this, is the co-existence of “registered”, “permanent” citizens and the spontaneous uses of urban space for activities that are considered both legal or illegal (for example tourism on the one hand, illegal trading on the other) that can also reach a certain level of stability and materialization, as found in markets in interstice areas related to mobility infrastructures in many Western cities.

[5] As articulated by the UN Human Development Index: http://hdr.undp.org/en/content/human-development-index-hdi

[6] Dramatically both in the rhetoric and literal sense, in the frame of a current situation highly tensioned. In reference to recent terrorist attacks taking place in Europe.

[7] http://www.etymonline.com

[8] *"Consensus - Definition"*. Merriam-Webster Dictionary. *Retrieved 2011-08-29*.

[9] A recent list of examples can be checked in “Collectivize! Essays on the political economy of urban form” (Marc Angèlil and Sarah Nichols (Eds.), Collectivize! Essays on the political economy of urban form. Berlin: Ruby Press, 2016).
[10] Bruno Latour, *Reassembling the Social. An Introduction to Actor-Network-Theory*. Oxford: Oxford University Press, 2005.
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[15] Kelly Shannon and Marcel Smets, *The Landscape of Contemporary Infrastructure*. Rotterdam: NAi Uitgevers, 2009. Opening of every section.
[16] There is a series of compilations that illustrate designers are going back to the scene; for example, Lloyd and Stoll (Scott Lloyd and Katrina Stoll, *Infrastructure as Architecture*. Berlin: Jovis Verlag, 2010.) have gathered a series of contemporary speculations, studies, reference projects and attempts to tackle infrastructure as (architectural) composite networks “that include ecological, political, cultural, spatial and network attributes”; and in Infrastructure Space (Marc Angèlil (Ed.), *Infrastructure Space*. Berlin: Ruby Press, 2016.), a wide range scholars expose cases of infrastructures performing as “thing, network, and agency”, exploring way to take them to the “foreground”, namely charge them with more “inclusive political, economic, social environmental, and even aesthetic responsibilities. Further references are found in OASE 85 (Teerds, Hans, Havik, Klaske and Patteeuw, Veronique, OASE 85 *Productive Uncertainty. Indeterminacy in Spatial Design, Planning and Management*. Rotterdam: NAi Publishers, 2013), here, the acknowledgement from the design point of view on uncertainty is the starting condition. In the same fashion, De Geyter (Xavier De Geyter (Ed.), *After-Sprawl: Research On The Contemporary City*. NAi Publishers/Rotterdam & de Singel International Arts Centre-Antwerp, 2002.) makes a point on uncontrollable sprawl as overall condition.
[17] Ibid.
[18] See Gilles Deleuze and Felix Guattari, *1000 Plateau*. Minneapolis: University of Minnesota Press, 1987 and Manuel De Landa, *1000 of non-linear history.* New York: Swerve Editions, 2000.
[19] This work engages with Lefebvre (Henri Lefebvre, *La production de l’espace*. Paris: Economica, 1974)
[20] This term is used in sciences like chemistry, computer sciences and finances for expressing similar connotations.
[21] The relevancy of an “Extreme” Case Study is expressed by Flyvbjerg: “Atypical or extreme cases often reveal more information because they activate more actors and more basic mechanisms in the situation studied. In addition, from both an understanding-oriented and an action-oriented perspective, it is often more important to clarify the deeper causes behind a given problem and its consequences than to describe the symptoms of the problem and how frequently they occur.” “The *extreme case* can be well-suited for getting a point across in an especially dramatic way.” “(…) to obtain information on unusual cases, which can be especially problematic or especially good in a more closely defined sense.” (Flyvbjerg, Bent, "Five Misunderstandings About Case-Study Research," *Qualitative Inquiry*, vol. 12, no. 2, April 2006, pp. 219-245).
[22] Joan Buquets developed the notion of areas of new centrality, “areas de nueva centralidad” in the ‘80s, which is widely published and explained, for example in *Areas de Nueva Centralidad* (1987) Barcelona: Ajuntament de Barcelona; *Architecture of the new centralities*, the text from the conference at Universitat Internacional Mcnéndez y Pclayo l'estiu in 1988 a Santander, accessed July 2017, http://proyectos5.blogspot.nl/2009/09/joan-busquets-areas-de-nueva.html. Several generation have nourished, implemented or criticized this notion. See the articles by Maria Montaner, Josep, “*El modelo Barcelona.” Or* “Los modelos Barcelona: de la acupuntura a la prótesis.”, accessed July 2017, http://tdd.elisava.net/coleccion/7/montaner-es. Also, by Francisco-Javier Monclús *in “The Barcelona Model: an original formula?. From Reconstruction to Strategic Urban Projects* (1979- 2004)” presented at the International Planning History Society and published at Planning Perspectives, vol. 18, n.4, 2003, accessed July 2017, http://www.urbipedia.org/hoja/El_%E2%80%9Cmodelo_Barcelona%E2%80%9D_%C2%BFuna_f%C3%B3rmula_original%3F_De_la_%E2%80%9Creconstrucci%C3%B3n%E2%80%9D_a_los_proyectos_urbanos_estrat%C3%A9gicos_(1979-2004)_(Francisco-Javier_Moncl%C3%BAs). An updated overview of the complex process can be found in: Ingrosso, Chiara, *Barcelona Society, Architecture and City*. Milano: Ikira Ed, 2011.
[23] As heart while discussing the case with local scholars in Barcelona, in March 2015.
[24] Some of these elements were already present at the times of Cerdà and constituted some of the view elements to which his grid expressed a sensitive reaction, with the alignment of the angle of shift to the existing train track to France.
[25] Which is nevertheless highly conditioned by Regional and National transport entities which for example imposed the high-speed train overpass Glòries Square to stop directly at La Sagrera Station.
[26] The theoretical concept of “morphogenesis”, understanding it here as the material and spatial outcomes of hybrid dynamics is put into practice. Manuel De Landa, *1000 of non-linear history*. New York: Swerve Editions, 2000.

[27] Periodical check-ups as this PhD-research proceeds are being performed (intensive site-work has been conducted in 2015, 2016 and 2017 by now, and is expected to go on until the end of 2018).
[28] Several techniques are put in place: photography, diary, direct observation, tracking.
[29] Carrer del Consell de Cent.
[30] *Mantero*" comes from the Spanish word "*manta*", blanket, where goods are normally exhibited and carried around.
[31] The authors are not from Barcelona, nor permanently based there.
[32] Glòries Square as the location of "Jean Nouvel's" Agbar Tower, the DHUB and Les Encants Markets by local reknown architects, along with the failed ambition to host "a Zaha Hadid's"; being on the axis of the controversial *Forum de las Culturas.*
[33] Critics come from voices like Manuel de Solá-Morales in *Enredados en Glòries*, 2005(?).
[34] The local media, such as El Periódico is constantly publishing articles on the decrease of living and environmental conditions in Barcelona, along with the real estate speculation and the gentrification process. Examples of this are: *Así funciona la especulacion en Barcelona, Las prácticas que propician la burbuja de los alquileres en la capital catalana,* accessed July 2017, http://www.huffingtonpost.es/2017/03/29/asi-funciona-la-especulacion-..., *El 48 de partículas respiradas en Barcelona son producidas por el rodado*, accessed July 2017, http://www.elperiodico.com/es/noticias/barcelona/las-particulas-respirad..., *La batalla por la vida: la calidad del aire,* accessed July 2017, http://www.elperiodico.com/es/noticias/opinion/batalla-por-vida-calidad-...,
[35] Accessed July 2017, http://www.22barcelona.com/content/view/887/90/lang,en/
[36] For a hard-critical overview of the "Barcelona Model", see Manuel Delgado, *La Ciudad Mentirosa. Fraude y Miseria del "Modelo Barcelona"*. Barcelona: Catarata, 2017.
[37] As expresed by Maria Rubert in her article "*Enredados en el túnel de Gloriès*, El Periódico, 30th Abril 2017. accessed July 2017, http://www.elperiodico.com/es/noticias/opinion/enredados-tunel-glories-6008212 exemplify the position.
[38] There are hard attempts to test what a hybridized approach may implied currently being purseued with the students at the Design Studios at the International Master of Science in Architecture, Orientation Urban Cultures and Urban Projects, at the Faculty of Architecture, Campus Sint-Lucas Brussels, KU Leuven, in Belgium, where the authors teach. More information can be provided upon request.

CREATING COMMON GROUND: THE VALUE OF PARTICIPATORY DESIGN IN ARTICULATING A COMMON ETHOS

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INTRODUCTION

Philosopher Karsten Harries defines the 'ethical function of architecture' as that of articulating a 'common ethos.'[1] From this stance, this paper considers how architectural processes may help to, as Harries describes, articulate a common ethos to help us dwell. Our close examination of an ongoing renovation of a small Bowls Pavilion in a popular neighbourhood park in Grangetown, Cardiff, led by a group of residents with the aim of gathering community, is set within the context of an 'age of austerity'[2] in which volunteers are encouraged to 'step up and take over the management of services and assets in their own communities.'[3] Our research scrutinises challenges and opportunities faced by residents taking on a Community Asset Transfer, and examines the challenges for participatory design and appreciative inquiry in supporting the pursuit of a common ethos for dwelling.

A Common Ethos for Dwelling

In his introduction to *The Ethical Function of Architecture*, Harries voices the hope that architecture may 'help us to find our place and way in an ever more disorienting world',[4] defining an 'ethical function' thus;

> "Ethos" here names the way human beings exist in the world: their way of dwelling. By the ethical function of architecture I mean its task to help articulate a common ethos.[5]

The articulation of a 'common ethos' was core to a small group of residents as they first voiced ideas for redeveloping a 134m^2 vacant 1960's Bowls Pavilion in Grangetown, Cardiff. Defining their aim as creating 'a vibrant, friendly community facility where people of all backgrounds can connect and are made welcome,'[6] all understood the task to be extraordinarily complex. In lieu of a predefined organization, the project was initiated by a loose group of individuals seeking to act as a catalyst, rather than as operators of the space. Making no claim to predict what 'the community' wanted, the group identified a first step as bringing together Grangetown's communities. 'To be experienced as a genuine centre', Harries writes, highlighting this challenge, 'a place must be experienced as gathering a multitude into a community.'[7] Our interest, as participants, partners and researchers, is how approaches to participatory design might support such a task.

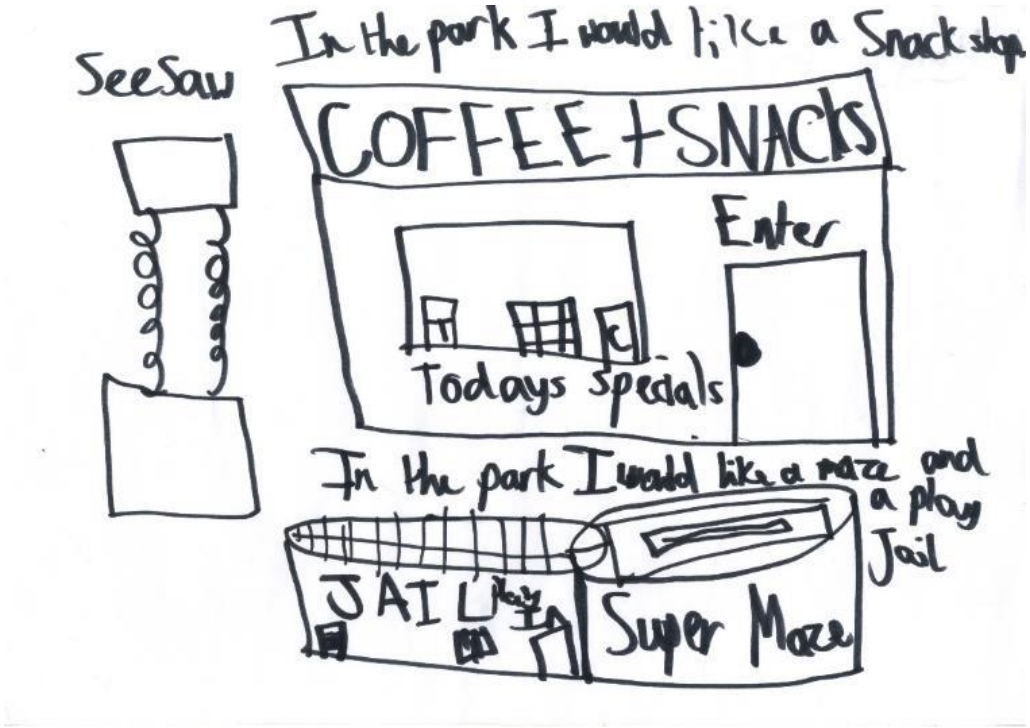

Figure 1. Launch partnership public event in Grangetown: image by resident. Vertical Studio led by Mhairi McVicar and Richard Powell, May 2013.

A micro-study of a small project

As participants, partners and researchers, our embedded role in the project is captured by Kathy Charmaz's description of Grounded Theory:

> Researchers are part of the research situation, and their positions, privileges, perspectives, and interactions affect it. In this approach, research always reflects value positions. Thus the problem becomes identifying these positions and weighing their effect on research practice, not denying their existence.[8]

While our close proximity to the process and its participants allows for an 'in-depth' understanding of the process, it also raises methodological issues regarding how we might distance ourselves to see more objectively what is going on. To address this, we develop written and visual analyses of documentations, through which we attempt to see the world anew. Charmaz describes a cyclical process of collecting, closely reading and analyzing data throughout research, a process we used in exploring and confronting mechanisms and processes along the way. Documenting emails, meeting notes, event feedback, interviews, films, photos, flyers, newsletters, tweets and conversations, we treat all communications as valuable, with the view that even the most seemingly prosaic communications give insight into the messy actualities of the endeavor.[9] Through close quantitative and qualitative analysis, the ebbs and flows of enthusiasm, optimism and progress of the project become more apparent. Visual analysis, such as Figure 2, captures the quantities and emerging themes of email correspondence over two years, tracking the project as it races ahead, stalls, or takes an unexpected detour. Analyzing daily communications begins to capture what is asked of those who 'step-up' to the complex task of taking over an asset in their community. At the Grange Pavilion, we began by trying to understand what 'community' might mean.

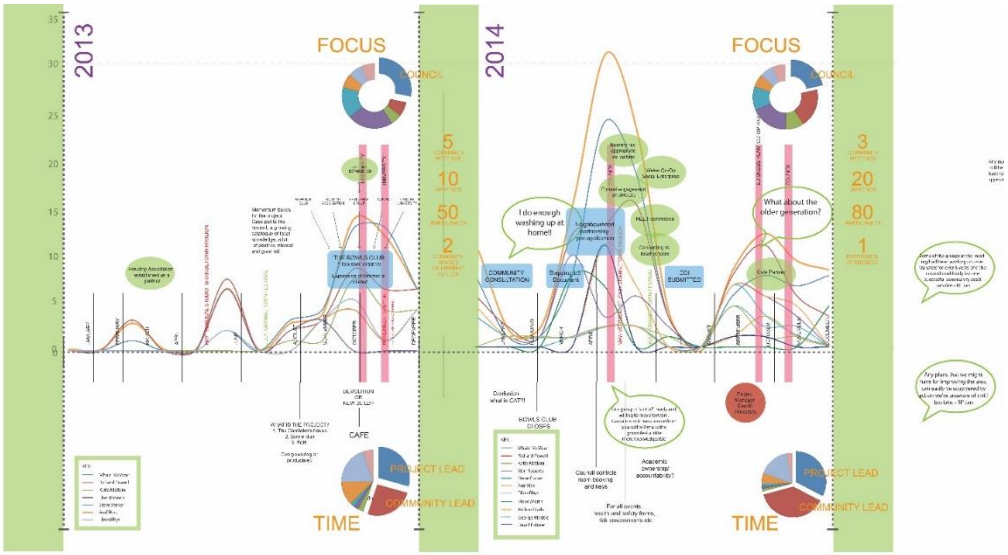

Figure 2. Communications mapping, Grange Pavilion Project 2013-2014
Image by Sarah Ackland under supervision of Mhairi McVicar

'WE SHOULD INVOLVE THEM IN EVERY PART OF THE PROJECT'

Cardiff's most ethnically diverse electoral ward, Grangetown is home to a population of 20,000 residents.[10] While well served by facilities including Mosques, Temples, Churches, social clubs, and bars, a resident observed;

> Grangetown doesn't feel like it has a center where the whole community can meet. At the moment, the community is made up of pockets of different cultural populations who mix in either the mosque, the temple, the pub, church - but they do not mix in one place.[11]

Grangetown's diversity is highlighted in consultations as a key strength, and the lack of a neutral meeting space is identified as both challenge and opportunity. An early email circulated amongst the group expressed 'something of a question rather than a set of definitive expectations or resolved framework.'[12] From the outset, the group of residents voiced the need to first ask questions and listen:

> Firstly we should get to know the local population to find out what they want. We should involve them in every part of the project so that they feel ownership and ultimately run the place.[13]

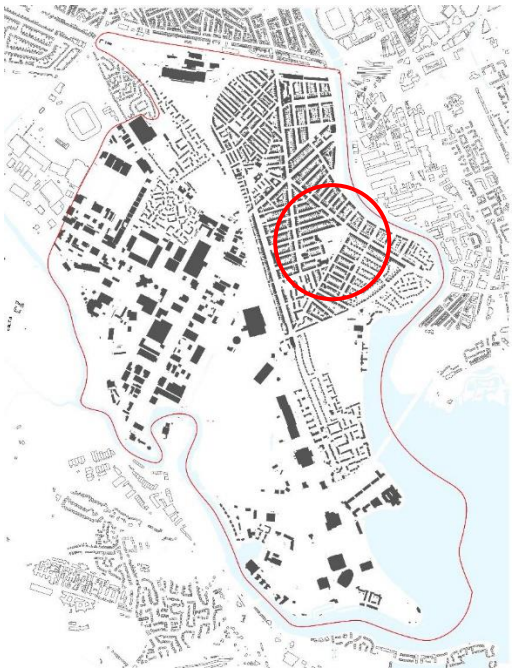

Figure 3. Grangetown electoral ward, Cardiff
Image by Fiona Shaw under supervision of Mhairi McVicar

Stepping Up and Taking Over

The Grange Pavilion project was formerly set into motion when a resident attended a local area Councilor surgery and began an ongoing discussion about the catalytic effect of quality, and the opportunity offered by a Community Asset Transfer. As guidance and context, Cardiff Council's Stepping-Up Toolkit notes:

> In an age of austerity, public bodies have been under increasing pressure to find new and more efficient ways of delivering their services. This has impacted across the board, but perhaps no more so than on community services delivered at a local level. The situation demands a creative response. Local communities have traditionally been very resourceful in acting to help themselves. Indeed, community organisations have been at the very heart of local service delivery for decades. The need and the opportunity, however, is to enable more community-led activities to take place. To encourage more volunteers to 'step up' and take over the management of services and assets in their own communities.[14]

Participatory Cities' 'Designed to Scale' publication similarly highlights 'that the state is a waning power in the lives of many, and it is seizing the opportunity to suggest that this may be no bad thing.'[15] Recognizing the 'implied risks' of devolving civic responsibilities, the commentary proposes that the state should 'not simply withdraw' but rather radically redefine its role.'[16] Redefinitions are similarly urged in RIBA's 'Guide to Localism' as 'a radical devolution of responsibilities to the local level, giving new powers and opportunities to councils and communities to plan and design their places.'[17] Localism, RIBA proposes;

> requires a shift to partnership approaches with local people, requiring new skills in building effective dialogue and developing a shared understanding of places, their challenges and their potential. [18]

RIBA advocates that Architects, 'can emerge as integral design enablers and facilitators of localized plan-making, helping communities helping communities and local authorities to maximise the potential of their places.'[19] At the Grange Pavilion, expectations - and fears - of collaborative working between community members and external partners focused on how professional organizational structures might give credibility to, or threaten, a community-led idea.

Despite advocacy for early engagement with professional services, the loose group of residents were initially in no position to apply for funding for professional services at a meaningful scale. Recommendations in Stepping Up that 'you may be able to secure some pro-bono work (provided by professionals at no charge),'[20] meanwhile, pose a challenge to hopes that professionals can resource the time required to develop 'shared understandings' at a meaningful level 'This project,' a resident noted in 2013, 'could become an all-consuming project that would overpower those who were tempted to step in such matters,'[21] an observation extending to professional as well as voluntary services.[22] Our role as participants, researchers and partners through Cardiff University's Community Gateway offered a unique opportunity to quantify what developing a 'shared understanding' might demand of all.

Figure 4. Ideas Picnic, Grange Pavilion Project 2014
Image by Mhairi McVicar

Community Gateway

Our partnership with the Grange Pavilion project was formalized through the development of Community Gateway as a Cardiff University Flagship Engagement project.[23] In 2013, Cardiff University made a long term commitment to Grangetown, launching Community Gateway as a three-

year pilot with an open call for ideas for Community-University collaborations.[24] Over forty partnership projects launched to date include a Business Forum, Youth Forum, Philosophy café, and Mental Health networks, bringing together residents and area organizations with staff and students across Cardiff University.

From earliest discussions, residents proposed that the University should enter into 'a relationship, not an affair',[25] emphasizing that knowledge, skills and resources should flow two ways, and that the University should support 'creating the notion of belief in the people, in the area.'[26] Initial discussions with the Grange Pavilion group led to our first three-week co-produced live teaching 'Vertical Studio' in 2013, tasking twelve BSc students with gathering ideas for a community space, gauging interest and support, and spreading the word. We imagined, ambitiously, that the students' output might form a design brief. It quickly became clear that our role was instead that of helping to gather community and collating what a resident identified as 'a growing catalogue of local knowledge.'[27] Gathering stories in order to gather community would form the basis of co-produced public events over the next three years, framed by our introduction to appreciative inquiry.

Figure 5. A cycle of co-produced events, 2014-2017

Gathering stories

Appreciative Inquiry is defined by Mathie et al as:

> a process that promotes positive change (in organisations or communities) by focusing on peak experiences and successes of the past. It relies on interviews and storytelling that draw out these positive memories, and on a collective analysis of the elements of success. This analysis becomes the reference for further community action.[28]

Karsten Harries notes, too, that architectural language 'is inevitably mediated by particular landscapes, particular histories, particular stories.'[29] As residents waded through the logistical hurdles of developing an expression of interest for a CAT, our second co-produced Vertical Studio in 2015 opened the Pavilion for an Ideas Picnic, with students baking cakes and collecting stories. A resident summarized:

> A bit of free cake and tea was always going to draw a crowd, and Grangetown excelled itself. We are now sorting through the comments and ideas that were flying about on the day.[30]

Comments and ideas confirmed wider support for the idea, the need for tangible things to happen, and the ongoing importance of the project being 'community-led.' While the Ideas Picnic gave an impetus to carry on, the complexity of the endeavor was becoming clear:

> As our project relies on pulling together many threads from within the community and other interested parties, for us to provide such a comprehensive business plan within an indicated and limited time frame would be very difficult.[31]

Emails identify the barriers involved in progressing from speculative conversations around kitchen tables to that of forming an organization. Defining 'who' an open group consisted of led a resident to observe that 'Our list of emails/members is a bit chaotic presently. I'm trying to figure out who exactly is a (willing) member of our group, officially or not.[32] 'Any project of this diverse constituency', another emailed, 'needs to maintain public momentum and cohesion when things are apparently not happening.' [33] 'Anyone can be positive towards an 'idea' such as this', it was noted, 'it's how that positivity translates into committed action.'[34] These observations align with Participatory City's list of eight 'reasons why projects die', the burdens of 'too many meetings and too little action', of enthusiasm lost through 'waiting too long', and of an over-reliance on one or two people to carry responsibility.[35] Progressing the project demanded early, tangible action, as well as reaching out for wider participation and support.

Figure 6. Storytelling Booth, 2015
Image by Marius Dirmantas

Gathering community

Our third co-produced event, Love Grangetown 2016, paired architecture students with community 'gatekeepers', identified through previous consultations to represent faith, ethnic, age and interest groups in Grangetown. Visiting mosques, temple, bingo, and family settings to gather stories, student-resident teams connected over 100 community members to set strategic aims for partnership working Identifying nine themes of value in Grangetown, the participants prioritized community meeting spaces.[36] Co-produced community-university events continued with a Storytelling Day in October 2015, the installation of a Storytelling booth as a first architectural intervention in the Pavilion (Figure 6); a second Love Grangetown in 2016; a 2016 'Vision of Grangetown' walking day; and a third Love Grangetown 2017, establishing a regular and repetitive cycle of public events to gather ideas and stories, invite commitments to action, and update all accurately on progress. As use of the Pavilion progressed from pop-ups to regular activation, community-led programming began: a cinema at an annual Festival, an Eid celebration, a seasonal solidarity evening, a winter Fayre, a weekly Friends and Neighbours group, Tech café workshops, a locally-led Café running regular culture café sessions inviting representatives of Grangetown's many communities to have conversations over coffee.

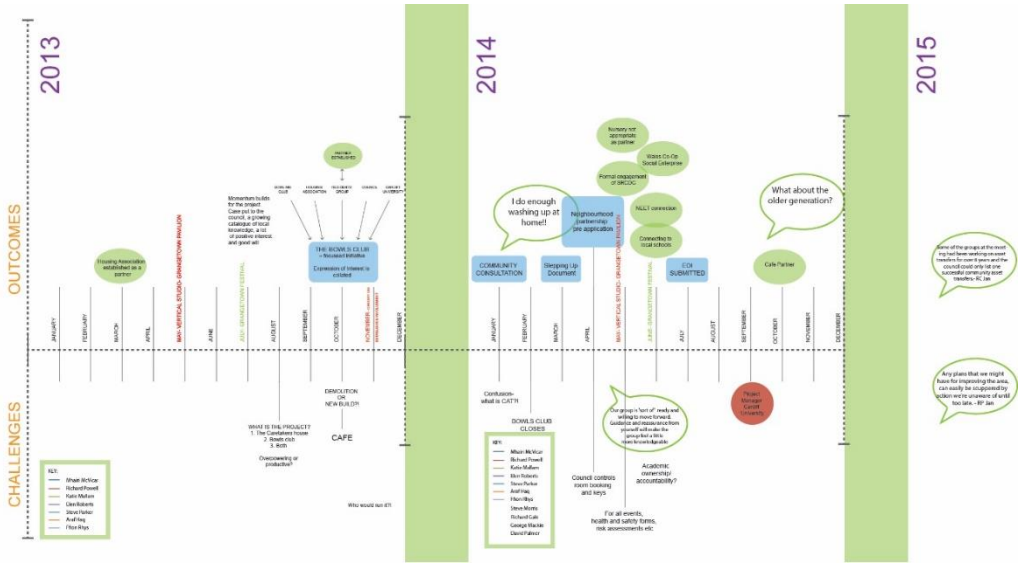

Figure 7. Key public events and their impact, 2013-14
Image by Sarah Ackland

Often knee-deep in paperwork and stalled by seemingly insurmountable barriers of the logistics of individuals and small and large organizations coming to agreements, in the midst of real life carrying on within the group - births, deaths, moving out, jobs changing - every co-produced event brought in new members to activate and progress ideas. Every event brought a slightly different energy and direction; each offered a visible, celebratory reminder of what the project was about; each reaffirmed how much input and support was still needed to make things happen over the long term.

Figure 8. Love Grangetown, 2016
Image by Gemma Gorton

The role of the architect

Our research started with the intent of tracking an architectural design for a Community Asset Transfer. Instead, three years of engagement focused, before any design proposal, on first gathering community. That this took three years and is still ongoing aligns with Participatory City findings that it takes an estimated three years to build 'a dense participatory ecology at scale.'[37] Micro-level participation, Participatory City observes, requires 10-15% of local residents at any one time, with costs of 'building and maintaining a participatory ecology in an area with approximately 50,000 residents' estimated at '£300,000-£400,000 per annum.'[38] These findings align with our own experiences in Grangetown, highlighting the depth of commitment and resource required to establish relationships critical to the emergence of shared understandings.

Interviews we held with the Grange Pavilion group similarly emphasized expectations that architects should take the time to get to know the area and offer an ongoing relationship. An architect, a resident noted, should:

> engender a confidence to demand better of everything from the client, the architecture and the funder […] an architect can raise the game and the quality of thinking to answer the question that has been posed.[39]

Describing architects as 'orchestrators' who can create 'an intellectual envelope in which things occur, spaces or events occur', a consistently expressed concern was the fear an architect would impose a design, and then leave the residents to deal with positive or negative consequences. 'Better Architects will stick around and genuinely create a relationship', a resident commented:

> …who would we trust to come and sort out the mess the day afterwards because it is a year down the line and it's not working, who is going to come back and say, actually ok we went too

> far and we are going to pull it back […] who is going to correct the correction that needs to be made? [40]

Prior consultation experiences underpinned cynicism regarding how feedback might be implemented. 'How do they act upon that?' a resident questioned. 'It is one thing to have post-it notes on the wall, it's another thing to actually look at them and feed that to inform your practice.' [41] The key criteria for the Architect was, finally, 'not about the visions but how they understand the 'us' of us.' [42] Such understandings take time, and suggest rethinking processes more suited to formal organizations. A resident described the barriers posed by external expectations that formal meetings should be necessary:

> It's the actual culture of the machineries the way that the meeting happens I think is for me quite difficult and draining. If you for a walk and you had a rant or you go for, I don't know… you're making something or if you're gardening. It's, you might spend longer having a cup of tea. But I would say that as the community group, the way we've displayed ourselves, as being serious, to demonstrate our properness, we go to a meeting…and it's a really delicate thing, isn't it? [43]

Figure 9. The Hideout café, Grange Pavilion, 2017
Image courtesy of Community Gateway.

'Gently revolutionary' space

We are still unpicking the wealth of evidence underlying the ongoing evolution of the project. From the first voicing of an idea by residents in 2012, the project has so far directly involved over 300 individuals in the community, university, council and external partners, working through over 500 emails, 50 'formal' meetings and uncounted cups of tea around kitchen tables just to reach the point of proposing a design brief which might be responsive to community ideas. The task of 'stepping up' from the bottom up is enormous and often overwhelming, delicately balancing the task of carefully maintaining multiple communities' trust, belief and resources against the often contradictory demands of externally-imposed deadlines and procedures.

Karsten Harries ends *The Ethical Function of Architecture* with recognition of the complexity of any claim that architecture can resolve the problem of community. 'With good reason', he argues, 'we have learned to be suspicious of all architecture that confidently embraces architecture's traditional ethical function.'[44] Harries proposes 'introducing into the context of the modern city theatrical and festal spaces, punctuated by works of architecture that, lacking authority and responsible to no one, are gently revolutionary and let us dream of utopia.'[45] In Grangetown, having tentatively gathered a form of community to reach a first agreement for a design brief, the project proceeds towards nurturing a relationship between communities and designers in pursuit of a space which may balance the certainties demanded by external agencies of planning and funding, and the open-ended, incremental and uncertain processes which support a community in gathering in a small civic space.[46]

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LEARNING FROM SELF-PRODUCED HOUSING EXPERIENCES IN BRUSSELS

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INTRODUCTION

Living in Brussels today

Over the past twenty years, housing production in Brussels has become a central issue. This concern is based on three main observations.

First, the demand for housing has increased in Brussels while accessible real estate has shrunk rapidly[1]. This lack of accessible housing in Brussels affects mainly the middle and popular classes[2]. Housing production currently amounts to approximately 4000 housing units per year of which less than 10% are social housing. Moreover, the housing demand has increased constantly. The target of The Brussels-Capital Region's Sustainable Regional Development Plan (SRPD) is to increase by 2020 the public housing stock by 6500 with 60% for social housing and 40% for middle class housing[3].

Second, as a result of this first observation, there is a clear worsening of the social inequalities. These inequalities are geographically distributed in a zone along the industrial canal, which connected the port of Antwerp and the industries of Charleroi in the 19th century. This area – "*le croissant pauvre"*, the poor croissant - is characterized by its poor housing conditions (overcrowding, lack of privacy, sanitation, etc.). This situation is getting worse every year; figures indicate that the sale prices evolution undergoes an accelerated growth since the first decade of the 21st century.

Finally, the city's household configurations have been evolving dramatically. The traditional nuclear family is no longer a shared standard. A great diversity of households has emerged (isolated people, roommates, people in transit, blended families, one-person households, etc.). The traditional housing spatial configuration does not correspond to this social diversity[4].

Living in Brussels tomorrow?

In the light of these observations, it seems necessary to find new and affordable housing configurations, production and organization modes able to shelter a great diversity of people. Such housing solutions need to guarantee the daily quality of life of its inhabitants and favour relations with the outside world. More generally, the purpose of these solutions is to produce more resilient answers to a fragmented territory.

This essay looks into housing cases offering unusual modes of spatial configurations and production systems. In Brussels, citizens' movements for the right to housing are growing and the cases studied are presented as alternatives to the current housing production.

An approach through the concept of Commons

The hypothesis made in this essay is that the concept of Commons can play a role in integrating housing in its environment as well as in articulating a variety of ways of life. The various places of life and the journeys of people through the territory are illustrated by J. Lévy in the examination of the scales of life[5]. Commons can perform as interface between a broad diversity of life trajectories. Commons make references to the management of common goods by a group of people. The common goods can be of two kinds. On the one hand, they can be external to humankind as it is the case for natural resources. One speaks then of intangible assets. On the other hand, they are directly linked to humankind when they are built and controlled by humans. In this case, one speaks of tangible assets for objects or places. This latter part of the definition of Commons is at stake when questioning inhabited and urban spaces.

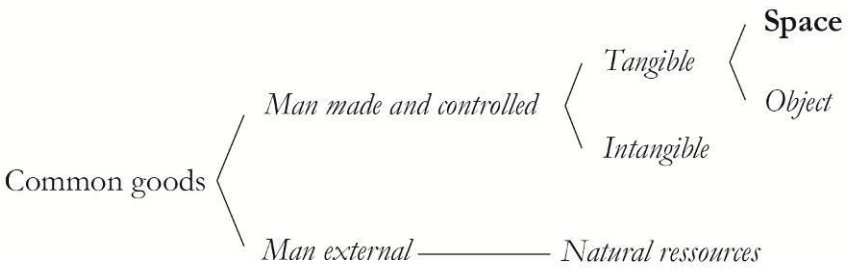


Figure 1. Common goods.

According to Dardot and Laval, *"The central issue of Commons lies in the prospect of subtracting something from the private or the public realm, to turn it into a potential use benefiting to all those who could relate to it"*[6]. Therefore, in order to exist, Commons must be present at the same time in space but also in the decision-making and the organization of the lifestyles. Through modes of production of housing environment advocating the common good instead of individual needs, the stake is to enhance citizens' initiatives and collective decision-making.

This issue is addressed in the case of housing in Brussels. The lack of accessible housing and the resulting urban fractures as well as the morphology of the Brussels block often endowed with former industrial plots make Brussels a fertile ground in the quest for the development of Commons.

SELF-PRODUCED HOUSING EXPERIENCES IN BRUSSELS

Three cases of self-produced housing in Brussels have been selected for this essay. They all support collective living but on different levels and with diverse ways of functioning.

"Brutopia", a collectively built housing estate[7]

The first case study is a collectively built housing estate inaugurated in 2013. It is located in lower Forest, a poor neighbourhood to the South of Brussels. This collective housing project consists of 27 apartments with 53 adults, 31 children/teenagers, 2 cats and 1 dog.

Due to the lack of affordable housing in Brussels, a group of people gathered their resources. The purpose of the group was to collectively play the role of a standard developer that is the purchase of a piece of land and the construction of an apartment building.

The project has been developed in the perimeter of the *"Saint Antoine district contract"*. In Brussels, the purpose of district contracts is to reinforce disadvantaged neighbourhoods by creating or renovating housing, rehabilitating public spaces, creating public proximity infrastructures, improving the

environment and the social cohesion[8]. In addition, for the past few years, the district has undergone a new dynamic through the establishment of cultural facilities for the neighbourhood or the metropolitan region, such as the Wiels, Center for Modern Art in Brussels. From the start, the inhabitants of *"Brutopia"* desired to be involved in this perspective.

To carry out their project, the inhabitants have developed a specific organization. They have created work groups on various topics such as architecture, accounting, or communitarian aspects. Within each group, a spokesman was responsible for making a report during the general assemblies. This collective work continues even though the project is completed.

The project consists of various types of spaces. The inhabitants had the ambition to favour the relations between their collective housing and the neighbourhood. With this objective in mind, most of ground floor spaces are dedicated to neighbourhood services. There is a Community Supported Agriculture center, a Homework School, a Center for Sick and Elderly Confreres, a Debt mediation service for disadvantaged population. There are also three architecture offices.

In addition, they have various community spaces to promote the group dynamic and favour relations between the different types of residents but also to limit individual domestic spaces. The community spaces are a common garden, a multi-purpose hall and a common laundry. They also have a parking with shared cars.

However, the inhabitants value the individual realm. In this case, the surfaces of the apartments are not significantly different from those of traditional housing. Each household has an apartment, usually a duplex with a private terrace. Collective life is not necessarily present on a daily basis but takes place during gatherings or within the common spaces.

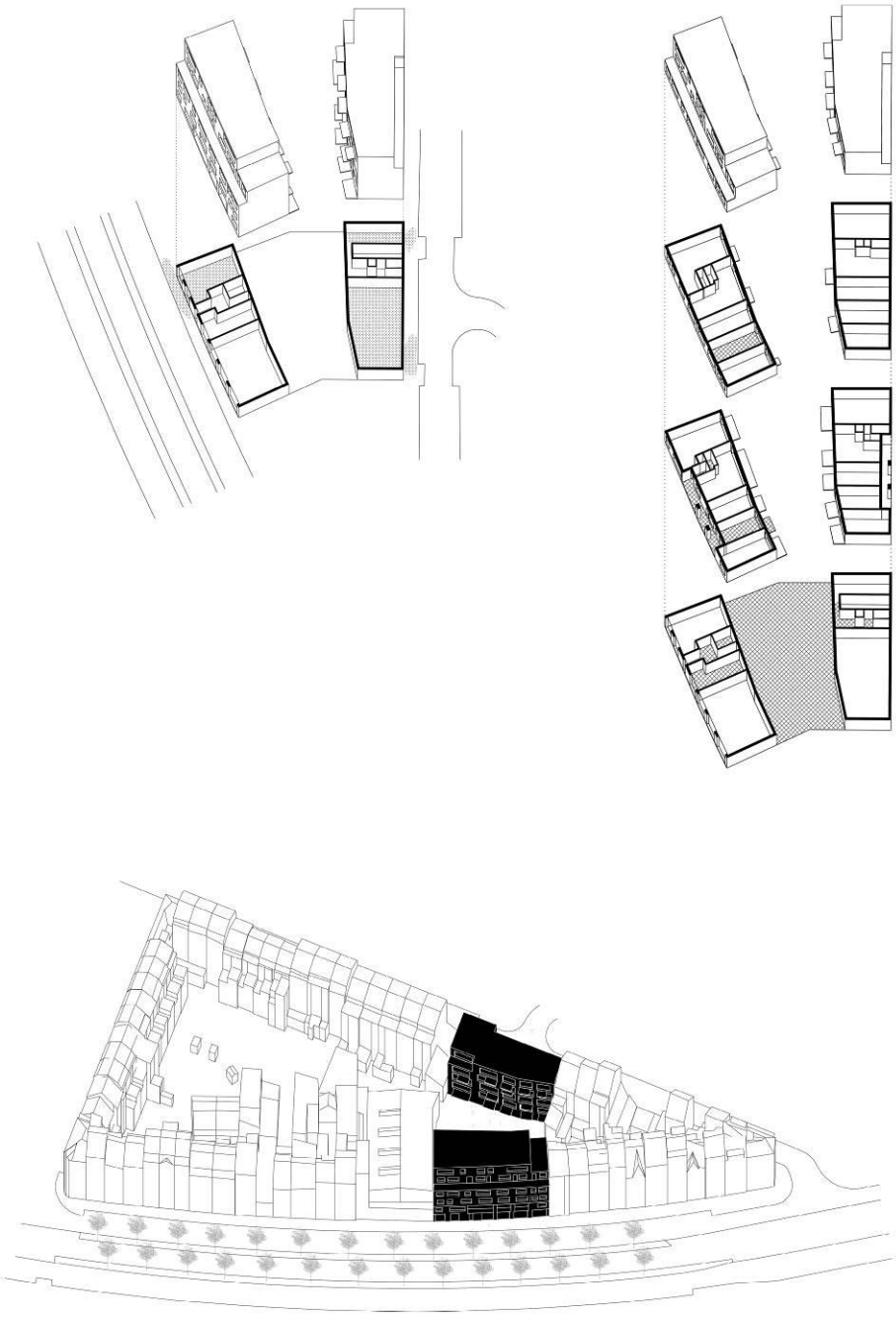


Figure 2. "Brutopia".

"123", a collective and inclusive, yet precarious, housing project

The second case study is a squat in the centre of Brussels.

Its story begins in May 2007 when a group of people decides to illegally occupy a building on 123 rue Royale. An agreement of temporary occupation is concluded very swiftly with the Walloon Region, the owner of the place. This agreement persists until the owner decides to renovate the building for another occupation with a one year notice before the group must leave. The group may occupy the building for free and, in exchange, it allows the owner not to pay for the vacancy taxes.

"The building occupants are students, homeless persons, artists, people without papers, or simply people wishing to participate in a non-classical life plan. Most of them have had difficulties finding a dwelling in a context of housing shortage or for more personal reasons, and felt the desire to live in a grouped and united housing"[9].

In "*123"*, there are 65 inhabitants. They pay for charges according to their personal situation (60, 90 or 120 Euros). All decisions are taken together during general assemblies every Tuesday and within smaller groups about specifics subjects (e.g. cultural or festive events).

Their philosophy is to open their doors to the largest number of people possible. To this end, they open a series public spaces every week such as a bike workshop, a *table d'hôte*, or a library. Those public spaces are situated on the first floor and on the ground floor of the building. Every other floor is organized almost in the same way. They display shared spaces: a kitchen, a small lounge, sanitation equipment and several specific communal spaces like a wood workshop, a painting workshop or a yoga room. There are two kinds of residents in *"123"* that determine the size of the private space and their right to vote during the general assemblies: permanent and temporary. Only the permanent inhabitants vote during general assemblies. They have a 35 m² private space corresponding to 4 window-spans. If an inhabitant decides to leave, he will always have a priority to come back. This measure is taken to allow inhabitants to leave easily without being afraid of not finding anything else. The temporary inhabitants, or guests, can take part in the assemblies but do not vote. They live in the guest rooms, which are smaller. The inhabitants' partners can take part in the assemblies but do not vote in the beginning. After some time they can become permanent inhabitants and have a right to vote.

The waiting list to live in "*123"* exceeds one hundred people. It is a significant sign of the housing shortage in Brussels and illustrates the fight against unoccupied buildings by allowing such initiatives.

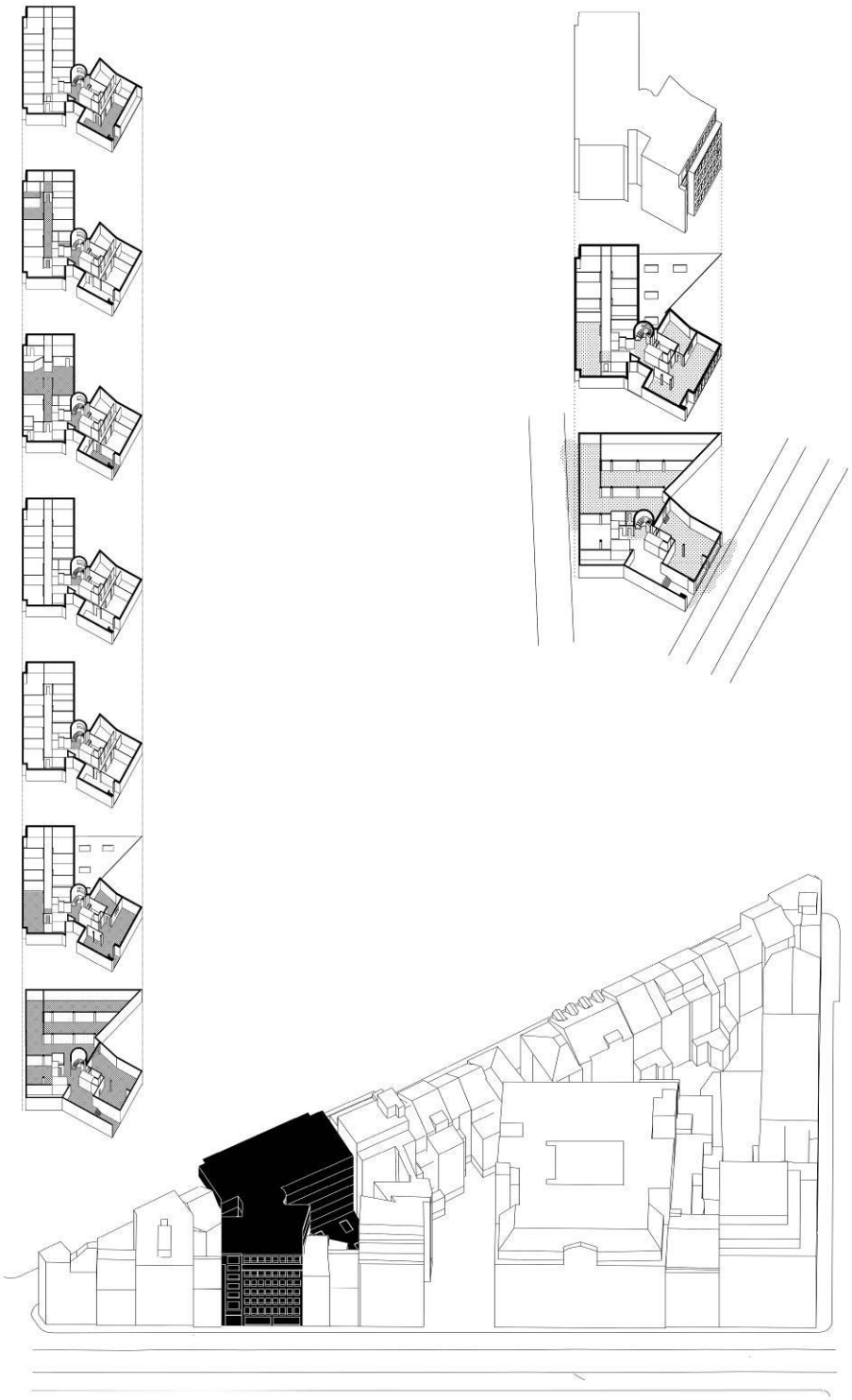


Figure 3. "123".

"La Poudrière", a self-managed community[10]

In 1958, two priests settled down in the district *"The corner of the Devil"*, a disadvantaged district of the capital. Their only purpose was to provide a reassuring presence in the neighbourhood. Little by little, the priests welcomed disadvantaged people and the community built itself up. In the 1970s, the community joined the *Emmaüs* movement. The philosophy of this community is to experiment an alternative to capitalism where humans become the only priority. They have five founding principles: presence, friendship, hope and personal fulfilment. The notion of community is extremely important. Salaries are shared and everything is bought in common.

In the beginning, the priests were looking for activities for the people they welcomed. Their first activity was moving for the neighbourhood. Today, their main activity is the recuperation and sale of objects of all kinds. The community also has a farming activity on the side.

The sixty members of the community are living in three different geographical locations: Brussels, Pérulwez (near the border with France) and Rummen (70km from Brussels).

All decisions are discussed together during the general meetings one weekend per month and they are then legally or administratively formalized by the association council and the administrative council (5 members of the community). The decisions concern the activities of the community or the buildings. The association council is composed by thirteen members, ten community members and three non-members including a notary. The administrative council is composed by five members of the community. They meet once a year or when it is necessary. Besides the regular community members, some people work as volunteers. They do not participate in decision-making but can be responsible of a specific task/activity.

The community owns an important patrimony inherited from persons close to the community. In total, the patrimony of *"La Poudrière"* is composed by sixteen buildings worth 8 million euros. The buildings are located in five different places: rue de La Poudrière in Brussels, Anderlecht, Vilvoorde, Pérulwez and Rumen.

"La Poudrière" location occupies almost a whole urban block with industrial constructions on the interior. The community relates to the district through its stores and their hospitality facilities. All the buildings of the block owned by the community are pierced to allow connections to the community spaces. The community spaces occupy a large area in the centre of the block while the private spaces are at the periphery. The private spaces are divided according to the different needs of the inhabitants. For example, the families have a kitchen and a dining room to allow some family time during the weekends.

Nowadays, the community has been less successful than in the 1980s. While there were 120 members in the 1980s, there are only 60 today of which 20 inhabitants in *"La Poudrière"* location. Hence, the community is looking for renewal solutions and new forms of organisation for the collective life. For example, they are thinking of using their assets to implement a system similar to the Community Land Trust.

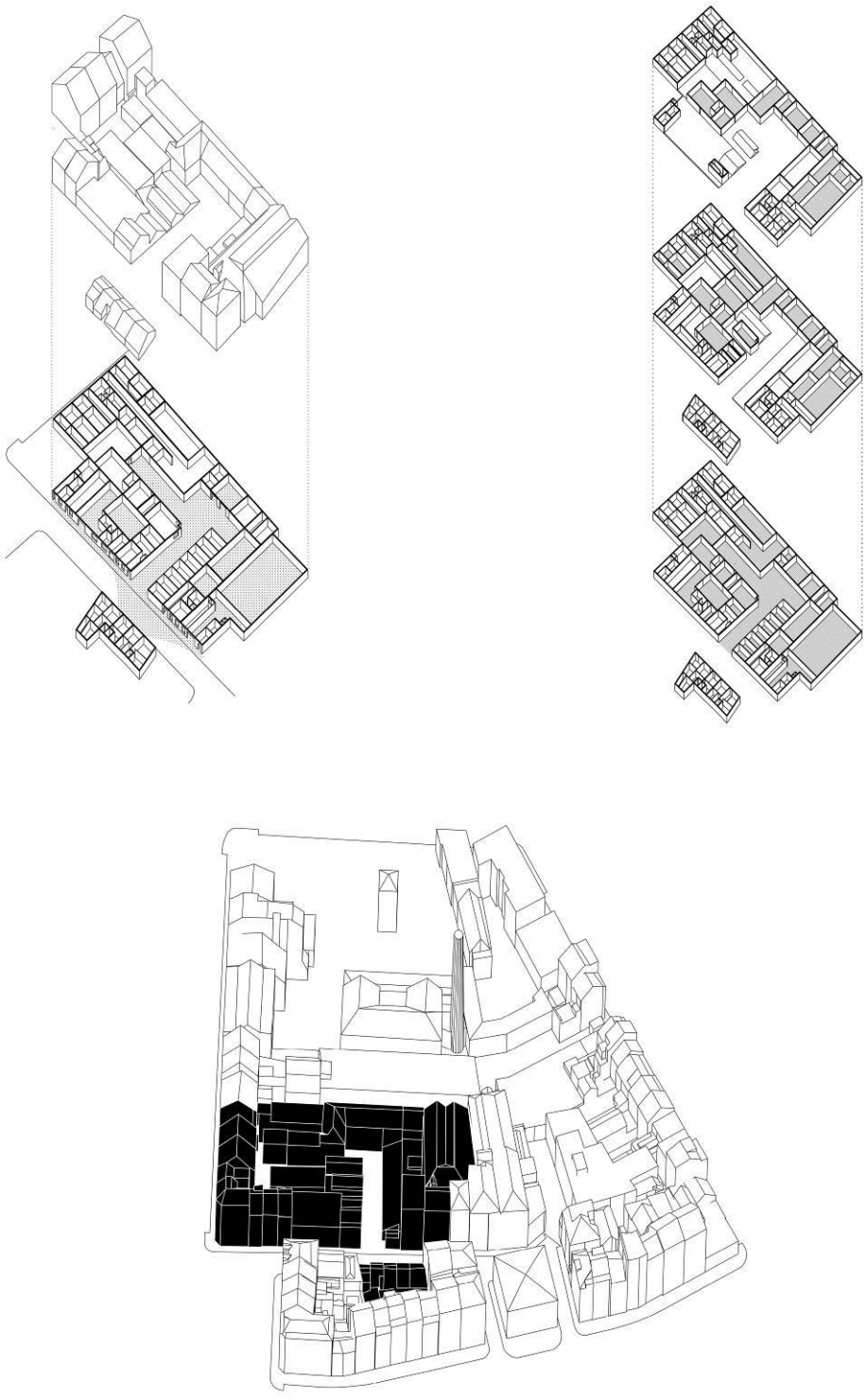


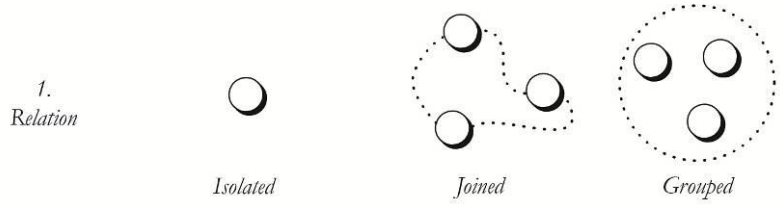
Figure 4. "La Poudrière"

AN ANALYTICAL FRAMEWORK

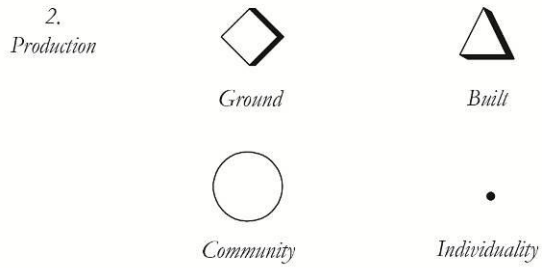
Each case study displays a certain form of Commons. The central place given to Commons seems to be an attempt to respond to the housing issues regarding the production modes and the changes of the society. However, they differ by their organisations, their uses and their spatiality. This essay questions which criteria favour the development of Commons as spaces for domestic as well as for urban life through a comparative analysis. The purpose of this analysis is to establish links between social and spatial factors to understand which arrangements support best the *"vivre ensemble"* (living together), integration in the surroundings and sustainability.

The experiences studied in Brussels are small but display variations in their spatial and social organizations. Moreover, given the current problems of our territory and the Brussels urban morphologies, those types of experiences are likely to increase in the future. In this perspective, it seems interesting to develop an analytical framework offering an understanding of those housing developments regarding our contemporary issues and enlighten the social and spatial indicators that are capable to cater for the needs and to support the changes of the society. The indicators of this first analytical framework will be completed by in-depth research fieldwork.

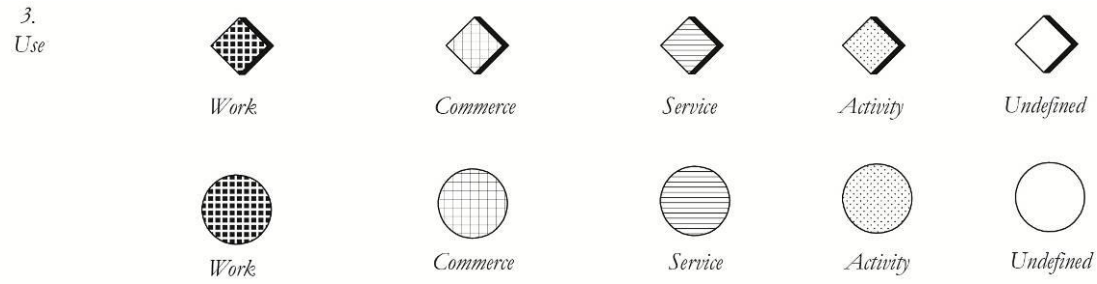
From a social point of view, the first indicator relates to the network established around the housing project. The different residences of the community *"La Poudrière"* belong to the same organisation. "*123"* is part of the *"Woningen123logements"* association like other temporary housing in Brussels but each of them has its own organisation. *"Brutopia"* is working on its own.



The second indicator specifies the production mode and the type of property (individual or collective) of the housing projects. Distinctions are made between several elements: the land and the building, the individual and the collective property. The inhabitants of *"Brutopia"* own collectively the ground and the commons spaces but individually their apartments. The inhabitants of *"123"* are not owner of the building but can occupy it for an indeterminate period of time. The inhabitants of *"La Poudrière"* own collectively of all their estate.



The third indicator defines the diversity of uses or functions. It varies between in all three projects; *"123"* organises non-profit activities for the neighbourhood, there are services for the neighbourhood in *"Brutopia"* and retail in *"La Poudrière"*.



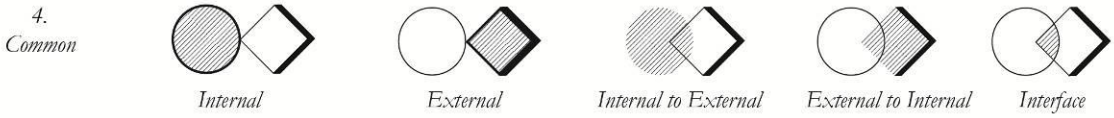
The last social indicator identifies the type of social organisation. It is divided in *"Brutopia"*, collective in *"123" and* hierarchical in *"La Poudrière"*.

From a spatial point of view, the first indicator refers to the building typology. In the present cases, they are all a part of urban block but they could also be separate housing units or buildings.

The second indicator specifies the nature of the multi-functional uses. Those uses can be superimposed, coupled, central, peripherals or distributed. The services of *"Brutopia"* are on the ground floor. The activities are distributed in *"123"* and the retails of *"La Poudrière"* are situated in the periphery. Those uses can also be contiguous or central.

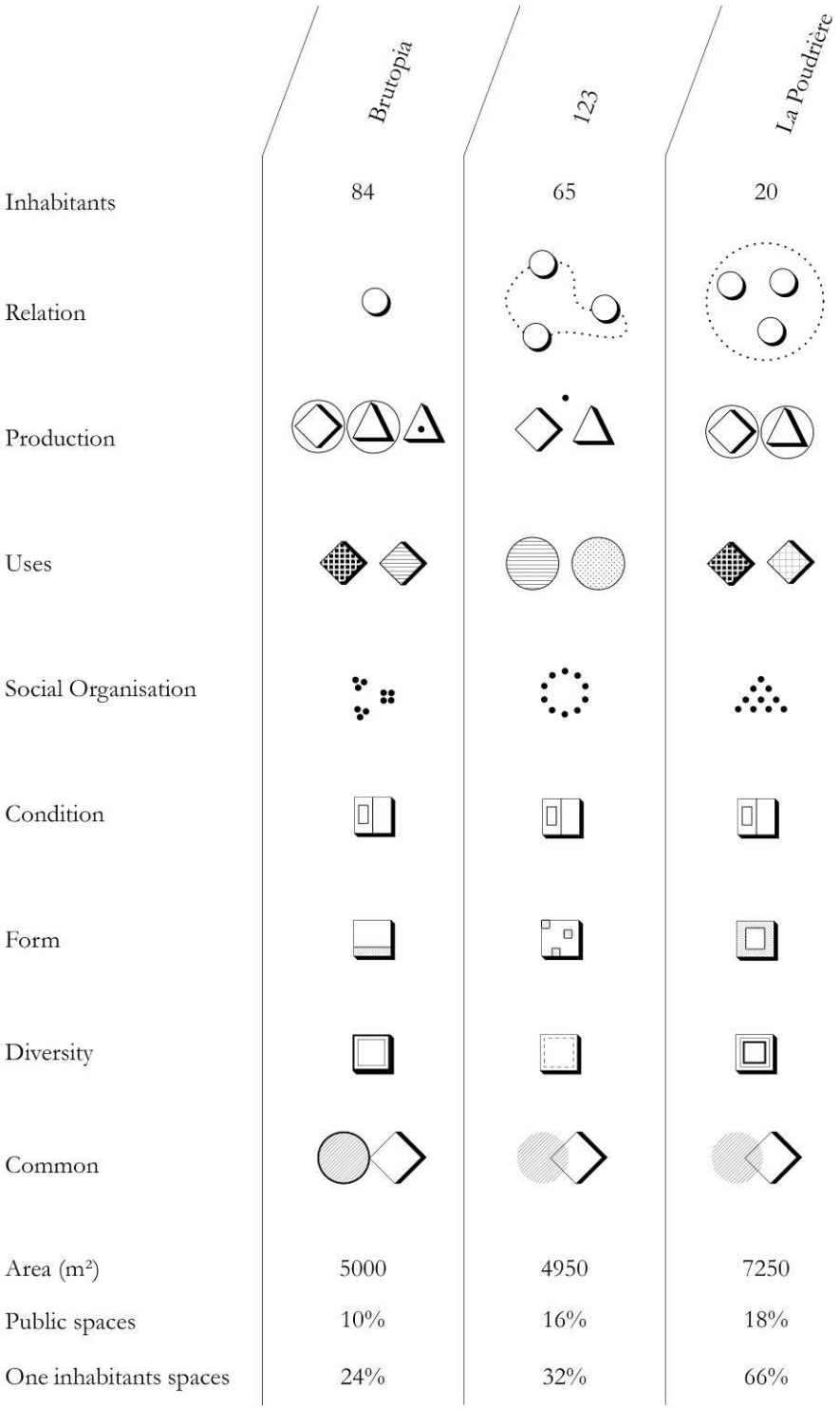
The third factor differentiates the level of intervention of the inhabitants on the built and non-built spaces. The inhabitants of *"Brutopia"* constructed a new building. The inhabitants of *"123"* invested the building and the inhabitants of *"La Poudrière"* transformed the urban block.

The fourth factor questions the commons spaces as an interface between the domestic spaces and the surrounding environment. In both *"123"* and *"La Poudrière"* Commons are provided by the inhabitants and create the interface with the urban spaces. *"Brutopia"* has internal Commons spaces but as the services are not organised by the community it does not create an urban space interface.



Finally, to understand the ratio given to the various types of spaces, an analysis was made of the percentages of public spaces, private spaces and the collective yet non-public spaces. The public spaces account for 10% of the total area in "Brutopia", 16% in "123" and 18% in La Poudrière. The spaces that

an inhabitant can dispose of (including collective spaces and his individual spaces) represent 24% of the total area in *"Brutopia"*, 32% in *"123"* and 66% in *"La Poudrière"*.



CONCLUSION

This analytical framework leads to a series of conclusions and research hypothesis.

From a social point of view, the diversity of housing production systems presented in the case studies could be a clue into a better accessibility to housing. However, limitations subsist in each of them. Despite the contract concluded with the owner of the building, the housing future of the inhabitants of *"123"* is uncertain. Indeed, the contract of precarious occupancy offers only a temporary solution. For its part, the system of *"la Poudrière"* does not specify the possibility of leaving the structure after several years, engendering thus a rather exclusive lifestyle. The production system of *"Brutopia"* allows for purchasing together at a lower cost but it does not allow avoiding speculation upon subsequent resale of the private apartments.
Moreover, upon observing the social organisations, the most hierarchical and the most communal systems are the ones to have the most difficulties to engage renewal. Indeed, the life constraints of *"la Poudrière"* endanger its future development and question its very organization for the next generations.

From a spatial point of view, the comparison of spaces shows that the size and the use of Commons are proportional to the level of communitarianism. The inhabitants of *"La Poudrière"* have a high percentage of communal surfaces at their disposal. In return, the individual spaces are reduced.
Likewise, this level of communitarianism seems to influence the diversity of uses and the connexions to the surroundings. In *"123"* and in *"La Poudrière"*, the inhabitants organize themselves the diversity of the uses in the building as activities or services for the neighbourhood. It is also in these cases that the greatest share of disadvantaged people and variations in inhabitants' profiles is found. *"123"* presents a large opening towards the neighbourhood through its various activities. *"La Poudrière"* also welcomes a large number of disadvantaged people such as migrants or former prisoners.

Eventually, one of the hypothesis resulting from this analysis is that the reduction of the individual sphere in favour of the common spaces allows an opening towards the neighbourhood through the implementation of activities and services by the inhabitants. Spatially, this is translated by a permeability and a continuity of the inhabited and urban spaces. Yet, this study enlightens the difficulty to generate Commons while allowing a flexibility of uses and lifestyles. This limitation could be a setback for future sustainability.
However, the ability of these housing projects to welcome heterogeneous sociocultural profiles, to stimulate urban space and to reconsider the traditional limits of the private sphere advocate their interesting role in the reduction of the social and spatial fragmentation of the territory.

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ABANDONED URBAN STRUCTURES AS A FRAMEWORK FOR HOUSING DEVELOPMENT

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INTRODUCTION.

Abandoned structures are usually linked to useless maintenance costs ("white elephants"), increasing crime rates, vandalism and arson ("hideouts") and declining property values ("eyesores"). These negative impacts could nevertheless be counterbalanced by the opportunities these structures might as well present, particularly in the face of the housing crisis.

Through this article, I would like to discuss the relevance of an update of the "structuralist movement" in architecture[1], which was developed in the 1960s, mainly within a group of Dutch architects. In particular, the proposal formulated by the architect John Nicolas Habraken, around the notions of support-structure, could be re-read with a renewed attention in order to address the potential of abandoned urban structures[2].

This renewed interest in structuralism in architecture[3] relies on the presence of a large variety of urban abandoned structures in many cities, some of them sharing common characteristics with structuralist projects.

Usually, the search for new accommodations relies on our capacity to build next to or above already existing structures. Instead, this article investigates the abandonment as another possibility to explore. In what extend could the notion of "structure in architecture", applied to large abandoned buildings, play a positive role in the housing crisis faced in some cities?

URBAN ABANDONED STRUCTURE: WHAT ARE WE TALKING ABOUT?

Absence of a universal definition

The phenomenon of abandonment covers a broad spectrum of buildings: from derelict houses to vacant offices, from hospitals in disarray to dormant factories, from obsolete military platforms to moribund malls. The phenomenon presents an important variety in term of former use, form, scale, state of decay and location. This variety leads to a difficulty in establishing a generally accepted definition: "*there are nearly as many definitions of abandonment as there are municipal governments tracking the issue and scholars writing about it*"[4]. The lack of a universal description addressing this diversity steers cities to define a property as abandoned for different reasons: it is uninhabitable (the physical condition of the structure is prevailing),

it remained unoccupied for a long time (the length of time is prevailing), the relationship between the potential owner and the building was broken (in this case, the ownership status and the related responsibilities are prevailing). Moreover, we can distinguish several forms of abandonment. According to Hillier[5], the abandonment can be physical, financial or functional. These three aspects may or may not be interconnected.

Focusing on structures of high potential

From this diversity, we will focus on a specific kind of abandoned structures. Not all of them are equivalent to tackle the housing crisis. We conducted a first analysis that **led** us to describe the abandoned urban structures through three different categories (which must be regarded simultaneously). The first refers to the initial project (characteristics inherited from the original impetus), the second refers to the abandonment of the project (characteristics tied to the stage of decay) and the third addresses the characteristics linked to the current neighborhood dynamics.

Table 1. Selected characteristics of the structures

	Initial project	**Abandonment process**	**Current neighborhood dynamics**
Characteristics of the structures	Large size	Skeletal / Scrawny (unfinished or released from the obligation to be finished)	Dynamic economy / urban growth
	Reinforced concrete structure	Limited state of deterioration	Need for housing solutions
	With or without heritage value	Long-term abandonment	Public property / unknown ownership
	Urban environment		

In the rest of this article, we will only consider structures sharing those specific characteristics.

STRUCTURALISM IN ARCHITECTURE: A SEARCH FOR STRUCTURE

From Team X to Forum

Shortly after the Second World War, while an intense period of reconstruction affected Europe, serious objections arose within the ranks of the CIAM[6] against the Charter of Athens which advocated a strict separation of functions (living, working, recreation and circulation). A young generation of architects rejected this functional-deterministic understanding of architecture in favour of a different design approach that seeks to translate human relationships into built form.

This critical emergence, motivated by a desire to reconnect with the social and cultural realities of the city, gave birth to Team X. The group was searching for an alternative to the static and functional city. They developed an anthropological and humanistic knowledge, fueled by an interest for non-western societies. The Dutch development of Team X has crystallized around the editorial board of the architectural magazine *Forum*. Among the most famous protagonists: the architects Jaap Bakema, Aldo van Eyck, Herman Hertzberger and Nicolas John Habraken.

Although different, their projects shared a number of common characteristics, such as a durable and visible skeleton made of concrete, an intertwining of architecture and town planning, an active participation of users and a deep consideration of time. These characteristics had strong implications for the built form, the design process and the role of the architect within this process.

These architects were witnesses to the postwar housing mass production. According to them, public housing failed to present a proper solution, in terms of both design and social challenge. The double attempt to increase production and to reduce cost has led to standardized mass housing[7]. People became unable to properly take possession of their accommodation: "*this sentiment was summed up in the word 'inhospitality'*" [8]. Therefore, the possibility of coping with large numbers of dwellings in a humanist way became central in their reflections on architecture and the city.

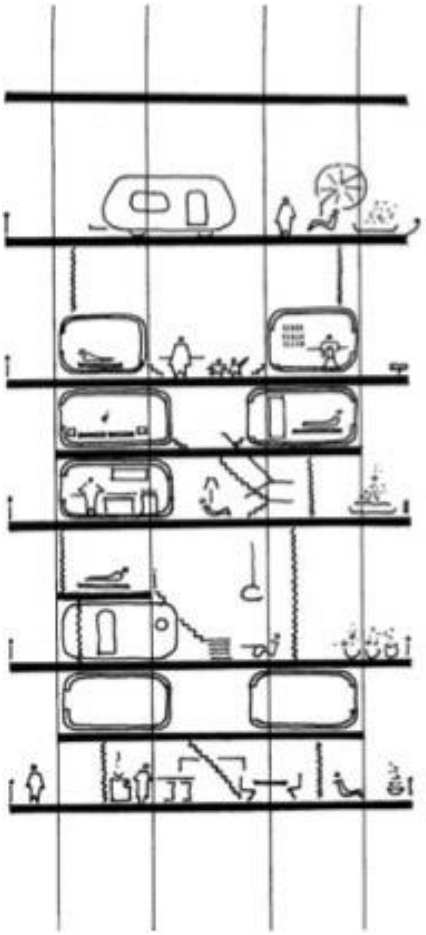

Figure 1. Schematic description of the support-structure principles (Habraken, 1963, unpublished)

The support structure

In the early 1960s, the architect Nicolas John Habraken[9] tried to solve this equation: "*How can we design large projects without necessarily imposing uniformity and rigidity where variety and adaptability over time are desirable? How can the big project nevertheless do justice to the small scale?*"[10].

His book, *De Dragers en de Mensen*[11] (known in English as *Supports and People*), proposed an alternative to mass housing based on the notion of "support structure". According to the

Dutch architect, "*A support is a building containing dwellings that can be built, altered and taken down, independently of each other*"[12]. In other words, Habraken's proposal aimed at a clear separation between loadbearing construction and secondary one (interior walls, windows, doors, etc.), between support and infill. The support structure (for which the government was responsible) had a very long lifespan whereas the dwellings installed within it could be renewed much more often. The responsibility for the dwellings was a matter for private enterprises or individual impulses.

Habraken's principles were not based on a morphological or a formal definition of the dwelling. This is the reason why the book does not contain any picture or plan. Habraken did not discuss the support in an aesthetic sense, but rather for its capacity to enable communities to inhabit a structure.

UPDATING ARCHITECTURE STRUCTURALISM FOR RENEWED CONTEXTS: THE ISSUE OF HOUSING

The need for interpretation

The contemporary situation is no longer the one described by the structuralists in the 1960s. Specifically, it is no longer a matter of producing new constructions based on structuralist principles, but of learning to observe existing structures in order to evaluate whether or not Habraken's housing alternative could be of interest. Therefore, a significant challenge of our time lies in our capacity to read and interpret the existing urban fabric. I would like to explore this interpretive ability through three avenues:

1. Abandoned structures as proto-structures
2. Abandoned structures as frameworks for multiplicity
3. Abandoned structures as meaningful repositories

A persistent proto-structure as an efficient guide for design

The structuralist approach is based on a defined set of rules to guide the design process. Habraken's support structure relied on a proto-structure: a primitive construction framed by simple rules. This proto-structure fulfilled two basic requirements: "*The support structure must have, as far as possible, the same section at any given point, and it must be as long as possible*". These requirements meant that vertical connections (such as elevators and stairways) had to be located, as much as possible, outside of the support structure. In Habraken's approach, the structure was then highly visible: the structure was the architecture.

Many abandoned structures, and particularly the unfinished ones, can be read as proto-structures: grids, or simple systems of axes guiding the design stages to come and setting the rules for further development. The contribution of this preexisting geometric arrangement is plural. Not only does it incur less costs – as the shell is already built –, but it also allows for a project implementation of greater speed. In certain cases, it can also be read as a framework awaiting later extensions, allowing different phases of growth within a single structure.

Other abandoned structures do not offer such a ready-made proto-structure. Nevertheless, with the introduction of minimum interventions, an analogous exoskeleton can be created on the façade. For example, the prospective project « Momento Monumento », developed by the French architects EXYST & Coloco in 2009, proposes the activation of an abandoned building located in the center of Sao Paulo in order to turn its 25 storeys into a place to live in for 6 months. The proposal follows an incremental development, but the very first step is to install

an external elevator to free the structure from its vertical connections, just as advised by Habraken, offering an open structure for the development of ephemeral activities. A similar approach can be found in the project « A layer of non-permanence » designed by the architect Massimiliano Botti to reactivate a vacant housing complex (unbuilt project, 2012). The architect proposes to "*make buildings capable of reacting to the constant change in which they are, with a layer of non-permanence, an adaptive exoskeleton that modifies relationships between building and surrounding space*"[13].

An exoskeleton is added on the façade but also on top of the building. It is conceived as an adaptive element, a grid that is both conceptual and operational, whose characteristics derive from the preexisting structure. In this case, we would refer to an external protostructure

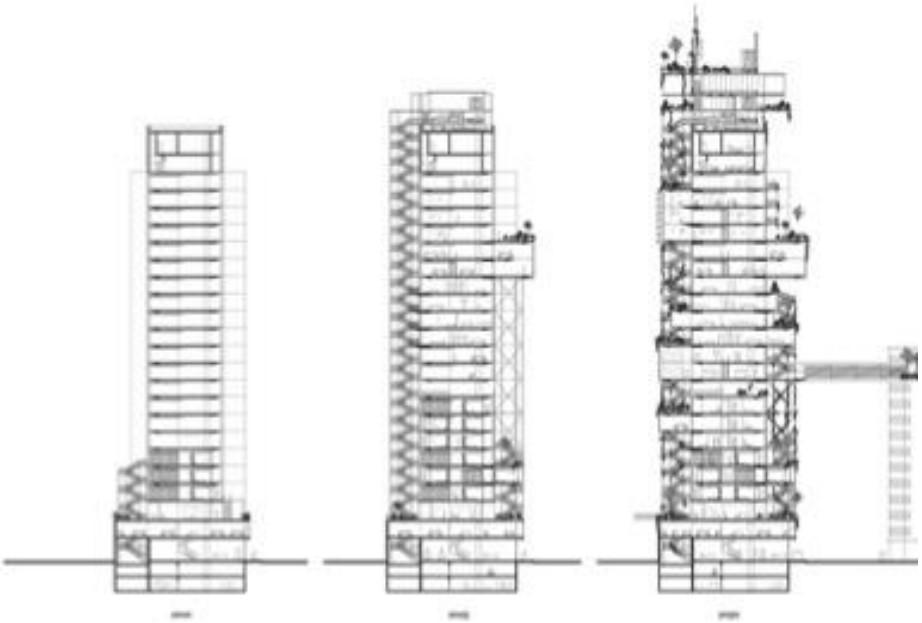

Figure 2. Three phases of the project "Momento Monumento": 2010, 2025, 2050 (Coloco, EXYST, 2009)

A gradually filling structure as a framework for multiplicity

The second example of interpretation proposes to read the abandoned structure as a framework for multiplicity. Habraken's clear separation between a loadbearing construction and a secondary one, also known as the "support-infill process", activated the possibility to create a structure of forms, which could further develop. The construction remained a structure of forms both in its beginning and its further growth, preserving the coherence of the parts. In other words, a multiplicity of elements was permitted but every fragment was then subjected to a single structural and constructional principle in order to make the pattern recognizable and homogeneous.

Such a relationship between a collective framework and individual interpretations has been observed in contemporary instances of abandonment, in particular in situations of informal occupation. We find an illustration of this in the unfinished hospital in Buenos Aires (Argentina), abandoned in 1955 and squatted for more than 20 years. At first glance, the façade is still wide open and the skeleton seems empty. However, a closer inspection reveals that small houses are there, built independently from one another on the vacant floors of the structure. The inhabitants used the concrete floor slabs as parcels of land to build their houses. The incompleteness of the hospital allows for a multitude of interpretations and proposals. A kind of 'Exquisite Corpse' is created: several projects, rather than just one, are taking place simultaneously. Each occupant is building his own house within the framework offered by the abandoned structure.

Another illustration of a gradually filling structure hosting a multitude of interpretations is found in a project called "Housing Italy", from the Italian firm *Studio Albori* (unbuilt project, 2008). In Italia, the number of abandoned structures, as well as their scale, overwhelm the capacity of the government to manage it. The project aims to transform an unfinished railway station in Milan into a dwelling place. According to the architects: "*The intention is to use every single part of the large discarded construction, avoiding any demolition, using it as the framework for a group of houses of different kinds (…) the marked variety of types, forms and techniques which the project hints at is a response to a desired active presence of the inhabitants in the planning and construction process, reflecting the multiplicity of possible choices and needs, extending with time to progressive modification, maintenance and adjustment"*[14]. In this situation, the involvement of the inhabitants is not only seen as an ethical value but also as an esthetic appeal. Indeed, the structure gains a specific visual power of peace and unrest, order and chaos, monumentality and bric-a-brac, through the incremental process.

A meaningful structure as a repository of community memory

The last avenue explores our capacity to read the abandoned structure as a meaningful repository. After the Second World War, structuralism in architecture repositioned the meaning of architecture at the heart of the discipline. This argument was of particular relevance for the development of housing alternatives. According to the architect Aldo Van Eyck: "*It is a question of finding large significant structures, which are recognizable to all city-dwellers, and continue to be so, and in which every city- dweller can recognize himself*". This need is partially met by the second avenue we have outlined. Nevertheless, to be meaningful, a structure should also participate in the collective construction of the city.

Figure 3. "Talk to the Station", an internet-based platform dedicated to the Michigan Central Station, Detroit (http://www.talktothestation.com/)

One might think that abandoned structures are inert, that they have lost their meaning, but this is not entirely true. Abandoned structures convey, despite their state of abandonment, narratives, histories and myths that can contribute to a housing development: "*once an element has lost its meaning and no longer works in its original context, it can be read differently and do duty in another context (…) whatever loses its meaning becomes available for use elsewhere*"[15]. Achieving a shift in meaning is a crucial step. The Michigan Central Station, in Detroit, sheds light on this issue. Narratives and legends surround the train station, unoccupied since 1988. Various internet-based platforms provide information about the structure but, more importantly, they invite citizens to "*talk to the station*" and share "*ideas and love for Michigan Central Station*"[16]. These platforms enable inhabitants to play a part in the preservation and potential redevelopment of Detroit's iconic landmark. They initiate a new dialogue with local communities. We should also mention that the number of film and video-clip

shootings in abandoned structures is increasing. Aside from their commercial agendas, these interventions also contribute in giving a new meaning to the structures, allowing for further development to start.

PERSPECTIVES.

This article explored three avenues outlining the role that abandoned structures could play in the housing crisis. Drawn from the structuralist principles, it proposed an update of Habraken's support- structure in the light of present-day concerns. It was found that the possibility of an update of the "structuralist movement" was mainly due to its capacity to consider buildings as processes in motion and democratic supports.

Nevertheless, the illustrated in this article are either unbuilt or tied to the informal fabric. It is not an anecdotal comment and it underlines some sticking points that act as a brake on the implementation of projects. To better understand why we did not find any built examples, we could refer to the words of Habraken himself. Talking about the differences one might draw between the support structure and the abandoned structure, he specified that: "*A support structure is quite a different matter from the skeleton construction of a large building, although to the superficial viewer there may appear to be similarities. The skeleton is entirely tied to the single project of which it forms part (…) It is therefore not an uncompleted building, but in itself a wholly complete one*"[17]. We believe that this difference is not just formal; the reference to a "*wholly complete building*", used to describe the support structure, has two fundamental implications. The first one addresses technical and safety issues connected to the reuse of an existing structure. In most cases, building regulations are formulated with permanent and fixed uses in mind[18], whereas the support structure considers change, multiplicity and hazards. The notion of jurisprudence should then be explored, on a case-by-case basis, to bring about potential exemptions and deviations[19]. According to the artist Rudolf Schäfer, architects need to "*embark on an objective review and ask whether this or that particular measure is really necessary in this form or whether one could resolve the issue differently*"[20].

The deadlock might also be due to a need to redefine the role of the architect. Indeed, when "structure is architecture" and it turns out that the structure is "already there", what remains to be achieved by the architect? What part could he play? Habraken already had raised the topic in the last part of his book, admitting that *"[he] will probably become somebody quite different from the current conception of the professional architect*"[21]. More specifically, the starchitect configuration seems incompatible with the support-structure concept: *"[he] will assume a certain anonymity, and will become part of a larger whole*"[22]. This new role has yet to be imagined.

These problems are however not insurmountable and they are worthy of being discussed and challenged. In 2015, the architecture agency of Christophe Hutin delivered the first phase of a project entitled "Les Hauts Plateaux" (literally, "The High Plateaux") in Bègles, France. The project presents a skeleton of concrete on which future inhabitants can freely build individual houses in a collective structure[23]. The connections between this project and the reflections initiated by the structuralists in the 1960s are obvious but, in this case, the concrete structure is newly built and its size does not reach the projections made by Habraken. Nonetheless, it appears to be a promising precedent towards an update of the structuralist approach.

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[2] Referring to the re-issue of Habraken's work, the Professor of Architecture Kenneth Frampton raises enthusiasm
about the relevance of his theoretical work « *in the face of the perennial problems of providing a truly appropriate habitat for large sectors of the population, the decision to re-issue Nicholas Habraken's support of 1961 could hardly be more timely. Now, after nearly forty years, it remains in many respects as pertinent as ever; and still, strangely enough, insufficiently known by architects and policy makers worldwide* »[2]. The extended relevance of Habraken's argument, after more than thirty-five years, is also linked to an alarming observation: housing is not a
« *focus of mainstream architectural concern* » anymore, making of Habraken's theoretical treatise an important contribution to revive housing discussions. Quotes from: John N. Habraken, *Supports: an alternative to mass housing* (London: The Urban International Press, 2011: 1961), back-cover.
[3] This pattern far exceeds the scope of abandoned structures. Recent years have seen an increase in the number
of publications on the subject. See, in particular: Tomas Valena, *Structuralism Reloaded : Rule-based Design in Architecture and Urbanism* (Stuttgart and London: Axel Menges, 2011) ; Juliette Pommier and Pauline Lefort, "Architecture et structuralisme : moments d'une relation complexe," in *Résonances des structuralismes*, ed. Jean- François Bert and Jérôme Lamy. (Paris: Editions des archives contemporaines, 2016), 181-198. Jean-Louis Violeau, "Team 10 and structuralism : analogies and discrepancies," in *Team 10, 1953-81. In search of Utopia of the Present*, ed. Risselada and Van Den Heuvel. (Rotterdam: NAI Publishers, 2006), 280-285.
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[6] CIAM : International Congress of Modern Architecture. The fourth CIAM Congress took place in 1933. Entitled "The Functional City", it consisted of an analysis of cities in order to propose « solutions » to urban problems. The conclusions were published in "The Athens Charter". The charter committed CIAM to a strict separation of functions (living, working, recreation and circulation). The Charter was published in 1943 : Le Corbusier, *La
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[8] Habraken, *Housing for the millions*, 91.
[9] John Nicolas Habraken was named Director of the Foundation for Architecture Research (SRA) in 1965, a structure founded by ten architecture offices. This research group participated in the development of Habraken's concept of support and infill.
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CITIES, COMMUNITIES AND HOMES: IS THE URBAN FUTURE LIVABLE?

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INTRODUCTION

The city of Riyadh presents various and somewhat unique urban characters which are hard to see in other modern cities. First, geologically it's located approximately 560m-600m above sea level in the central part of hot and dry Arabian Peninsula. The old town, Diriyah which is the origin of Riyadh, had grown out from Wadi Hanifah, the watershed. Secondly, the economy shift to oil producer urged to implement an urban planning 1972 designed by Constantinos Apostolou Doxiadis for its unprecedented expansion equipped with new technology, automobiles. Thirdly, the gap between the first and the second created ongoing struggles to people in Riyadh. This paper will seek the lost from the original geological character of Riyadh. Reviews on the adjustment immediately followed by 1972 urban planning will show the needs and demands as a bottom-up approach to the top-down urban design approach. Analyses on the third will unfold the potential urban conditions by residents' daily living pattern which will be changed by the first public transport system in Riyadh, the Metro and transit buses that will question urban environment operated solely by private transportation network for decades. It aims to investigate an opportunity to find and propose accessible places for commuters followed by public transportation.

Growth of Riyadh

An urban spatial structure was fabricated on a mega scale to accommodate the maximized speed of automobiles for the unprecedented urban expansion in a decade. Since the master plan failed to provide

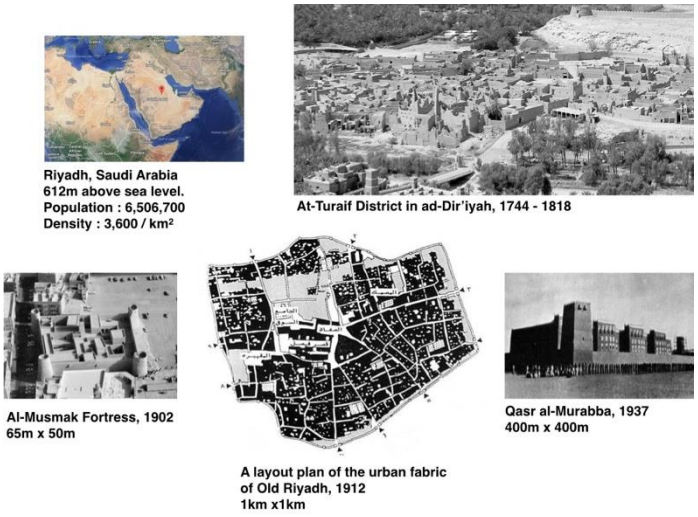

Figure 1. Riyadh till the middle of the twentieth

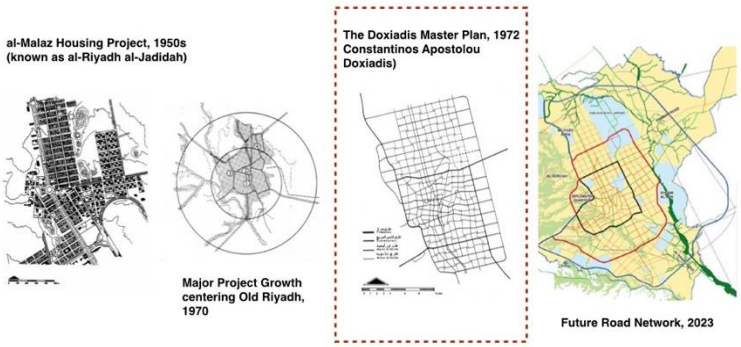

Figure 2. Riyadh till the end of the twentieth

open, public, and green space for the city, Riyadh in Saudi Arabia has struggled to cope with the raw condition of speed and scale disorienting the specific sense of place and communities. Ironically, the meaning of Riyadh is *Gardens* in Arabic. This paper aims to identify the dominant urban features of Riyadh especially in "Doxiadis' Grid" to find the potentials becoming an Urban Oasis where homes and communities come together to each other. It will promote to engage, and generate more of public activities that would integrate with new public transportation network, Metro, and transit buses soon. It is said that there were some conflicts between Constantinos Apostolou Doxiadis, a Greek Urban Planner, who designed the master plan of Riyadh in 1968-1972, and Saudi Arabian officials on the lack of green space for family and cultural identity.[1] Doxiadis' master plan presented a rational, Dynapolis.[2] It might be the scientific and practical response to Riyadh having the unprecedented urban expansion propelled by the oil industry. However, to Saudi officials, Riyadh could be a modernized urban oasis, an Islamic city as the old town. At-Turaif District in ad-Dir'iyah had been near to watershed; Wadi Hanifa.[3] Riyadh development has been divided into two periods; the beginning to the middle of the twentieth century (Figure 1)[4], and from the center to the end of the twentieth century. (Figure 2) [5]

The Rational of Doxiadis' Grid

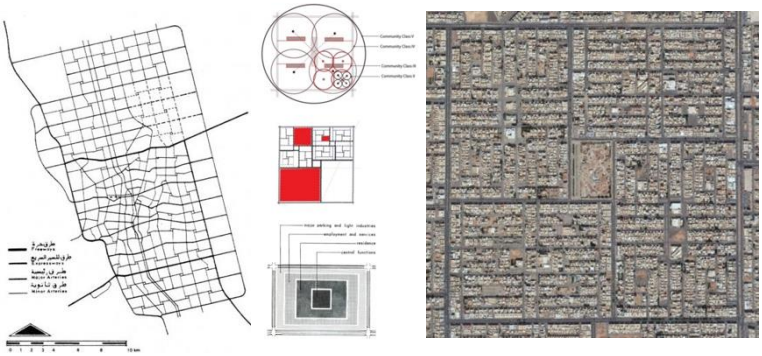

Figure 3. Doxiadis Master Plan and Typical Residential

The fractal figuration of Doxiadis' grid symbolizes the dynamic growth of Dynapolis formally. Excluding the absence of green space from the master plan, there is a duality in Riyadh urban block formation of Doxiadis, which represents his rational, Dynapolis on the grid of 2km x 2km for its urgent expansion representing dynamic and organic growing forces of communities. (Figure 3) [6] However, every block is disconnected from other blocks by full and high-speed roads of about sixty to eighty-meter width with six lanes. The units inside of block were arranged in radial road networks like a

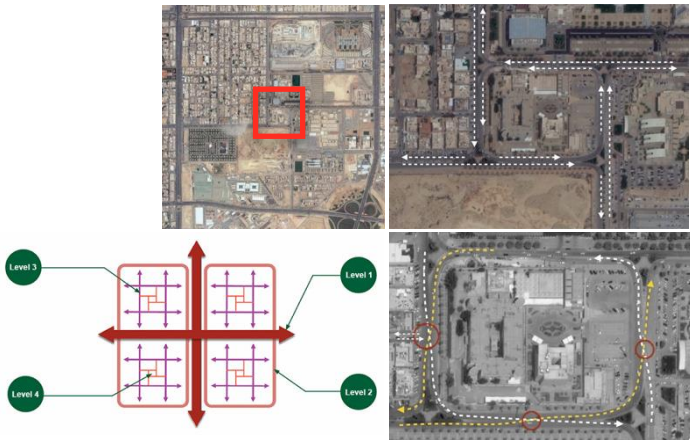

Figure 4. Traffic Flows at the Core of Residential

pinwheel as individual cell units in a dynamic growth pattern pinned down by the common core of 200m x 200m as illustrated in Figure 3. However, its formal application of the internal road networks in repetitive fractal figuration created inefficient traffic flows causing wayfinding issues, isolated by roads, and colliding points around the center block as illustrated in Figure 4[7] that results in the controversial role of the communal area though providing community programs such as mosques and parks.The modernist's rationale also could be found in the urban axis of roads towards Mecca. Riyadh contains prolific and historical spatial structures which only radical and topographically sensitive minds could have built in the harshest inhumane environment. The central spine axis was set towards North West considering future expansion. Therefore the axis of major roads from northeast to southwest was laid towards Mecca to form superblocks for future expansion. The existing radial formation of the city development shown in Figure 1 could inspire Doxiadis to propose the pinwheel formation of the block. However, it's questionable how the religious axis implemented against Doxiadis' scientific method of urban planning, dynamic growth. The general orientation of the city toward the northwest allowed its parallel streets, roughly oriented southwest-northeast, to face Mecca and the direction of prayer. Doxiadis wrote a letter to King Faisal, "a symbol for a Mosleum city" and a place "governed by the spirit of Arabia." "We have been happy to find out the overall topography has allowed us to direct the main streets toward Mecca," However the Town Planning Office criticized the "many awkward and unnatural shape" caused by this orientation.[8] (Figure 5)

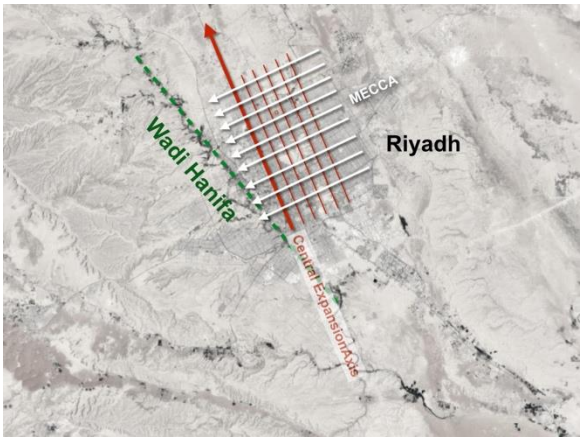

Figure 5. Major Urban Axes of Riyadh

Experiencing the Rational

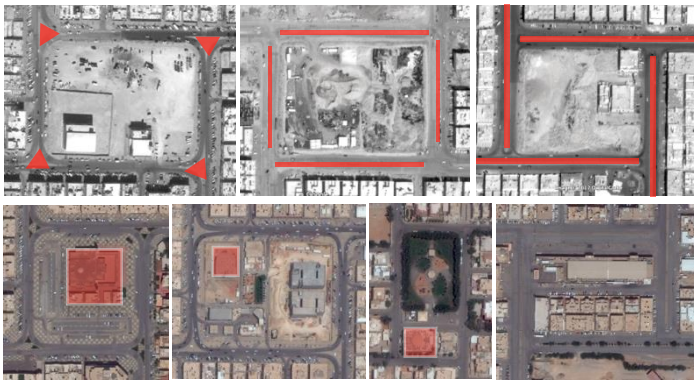

Figure 6. Adjustment of Traffic Islands (Top) and Designated Communal Program at the core

Firstly, roads around the center have been adjusted in many ways as possible to manage access and generate smooth traffic flows of automobile-oriented communities as illustrated in Figure 6. Also, it is worth of mentioning how the deformed and disfigured centers would affect the formation of transit buses routes linked to Metro shortly. Due to intervened traffic flows caused by the pinwheel formation of the internal block streets, the establishment of sidewalk networks connecting houses to the pinpoint center of communal space designed to program mostly parks and mosques, had been compromised and neglected. Inconsistent pedestrian walks could be the challenge for communities where family-oriented value is honored and protected culturally and socially to accommodate new public

Figure 7. a Mosque in Riyadh (Left and Top) and a Mosque in Abu Dhabi (Right and Below)

transportation system. The centers designated as the communal place for the community with Mosques and parks and located at the pinpoint of pinwheel formation become a highly inactive place and isolated at the critical point of residential blocks due to the absence of walkable pedestrian's network. It is apt to become static urban places due to the absence of procedure of joining to the public space from the private space such as houses and automobiles. There is a definite physical hierarchy of roads in residential blocks according to Doxiadis' Ekistics. However, what is clear is the geometrical layout of the formation of roads, and a pinpoint wheel symbolizing a dynamic growth formally on the map. Furthermore, the spatial hierarchy in the width of roads for vehicles is worsening by the absence of proper sidewalks. Therefore, it's not perceptive in human senses and dangerous for residents when

Figure 8. Flattened Ground

Figure 9. Typical Density and Boundary Walls (Top), Parking lots around malls

anyone walks to the center due to consistent traffic flows in specific speed at the core of residential blocks.

Secondly, the superblock grid was implemented for the automobile-oriented city by flattening the voluptuous topography. It has secured speed of private automobiles in Riyadh where has no public transportation in Doxiadis' master plan. It changed daily rhythm deeply than any other city considering five times of prayer in a day. All different daily activities are paralleled to the roads laid in the direction of Mecca. (Figure 7) It reduces chances of different daily rhythm varied with different motions. With the lack of pedestrian networks, it's challenging to find intermediate space mitigating between the high-speed automobiles and the pace of human activities. Flattened topography (Figure 8) and singularized axis have accelerated the speed of the city and weakened the sense of community by the extreme shift between the public and the private with high walls adjacent to questionable sidewalks shown in Figure 9 (Top). Subsequently, the grid induced massive parking lots around mega malls compromising human scale in Riyadh. (Figure 9, Below)

Public Transportation as an Urban Integration

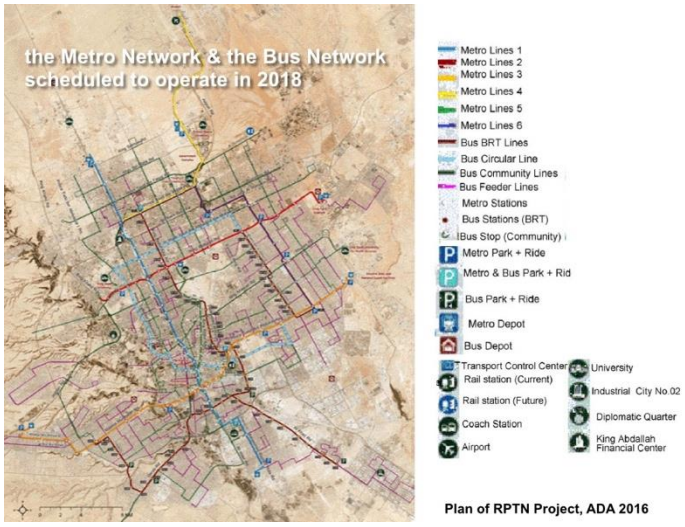

Figure 10. Riyadh Metro and Transit Buses

The unique urban setting of Riyadh on Doxiadis' grid will be challenged with public transportation network coming in 2018. (Figure 10, 11) A sophisticated living pattern and its operative mind can't be fabricated in a short time. The unassigned and unregistered radical living pattern of Riyadh were

Figure 11. Detailed Illustration of Public Transportation Networks of

feeble to be noticed at the time of Doxiadis' master planning, automobile-oriented city. The absence of it weakened and questioned the need for public space. The imbalance between private space and open space regarding quantity and programs caused the unpleasant urban experience due to the extreme gap to handle it on a daily basis. To be in private or to be in public by jumping in a private car, there is no transitional experience of the urban environment suitable for the human level to process the journey. The repetitive spatial structure implemented by Doxiadis brought residents to shun off themselves from the public due to complicating and incomprehensible community layout with lack of human scale urban settings.

Doxiadis implementation of top-down urban planning and images of Islamic value superficially weakened fundamental values of life as well as the existential value of the city of radicals who secure human settlement by having keen sensitivity on their environment. The disturbed sophisticated living pattern and rhythm can be regained with Metro and transit buses by bringing back the idea of sharing, allowing users longer in a public realm as one of the commuters, and increasing opportunities to engage more. Metro and transit buses will improve mobility of people. Moving together from one place to another place with a group of strangers will be an exciting challenge to citizens in Riyadh. The problem would be how to tame the spatial structure designed for automobiles especially, the scale of space and

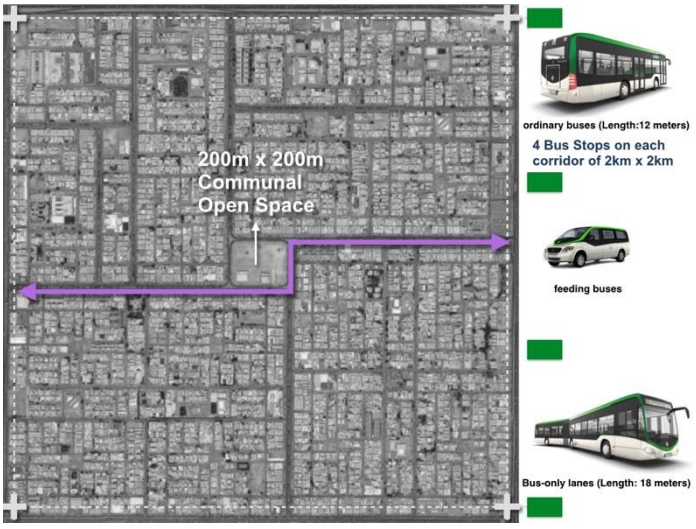

Figure 12. Different Levels of Transit Buses and Typical Residential

absence of transitional space or sidewalks. Fundamentally, it is a chance to recover the forgotten sense of sharing and gathering with 85 stations of 6 lines in Metro networks and 6785 Bus stops in 4 levels of Transit bus networks. Bus Stations and pedestrians of Level 1, 2, & 3 Stations connecting Riyadh Metro Lines are introduced. Then, the question is remaining; Can Riyadh Metro bring back the lost sense of vital community as in AtTuraif District in ad-Dir'iyah with multiple public gathering points? (Figure 11) Can there be sidewalks linking homes to Feeding Bus Stations within walking distance? (Figure 12)

Revisiting the Past for Pending Urban Integration

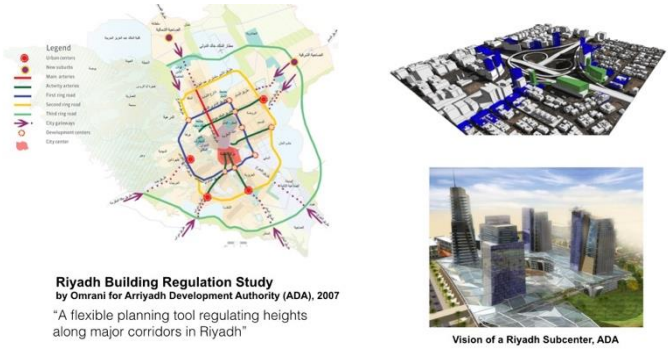

Figure 13. Riyadh Building Regulation Study by Omrani,

There have been a series of revision of the Doxiadis master plan since 1978. A French firm, SCET, mainly revised infrastructural issues that infrastructural water supply was not considered in the Doxiadis master plan. MEDSTAR, Metropolitan Development Strategy for Arriyadh, reviewed the single axis of expansion to multiple axes and cores and the local scale of modulus in 1996.[9] the lack of consideration of the social and cultural context of Saudi Arabian life were the major dilemmas including Doxiadis axis which is set against natural topography. Recent development around Wadi Haifa rediscovers and recognizes the value of fundamental resource of the city. Understanding its ecology gives numerous clues and resolution of current urban environment issues of Riyadh by increasing public awareness of the origin of the town. (Figure 13)[10] The expansion of ecological rhythm of Wadi Hanifa integrated with ordinary urban life instead of being categorized as parks and can initiates users friendly environment in the automobile-oriented city concerning scale and speed of a garden in the desert as it used to be, but embracing larger communities. Similar to this cultural expansion of Wadi Hanifa, if the major flow of Metro and the minor flows of transit buses can integrate with the residential blocks, friendly

Figure 14. Riyadh Building Regulation Study by Omrani,

communities linked by homes and pattern of uses which are longed for many years can be achievable in Riyadh. The radial existing growth pattern before the Doxiadis master plan was a confirmation of self-

sustaining growth finding a way to link their homes to each other regarding social, political, economic, and cultural needs. Because it is a desert city, the watershed comes first to sustaining homes more for their existence. The value they share, a religion, a critical factor is to increase the existential value of community. The shift from the private transportation networks to public transport network introduces radial urban expansion with layers of rings around the center pinned down with satellite sub-cities. (Figure 14)[11] It is an escape from one major axis oriented development to encompassing all potential communities where spread green and livable places in the desert like the urban oasis.

Scale and Speed

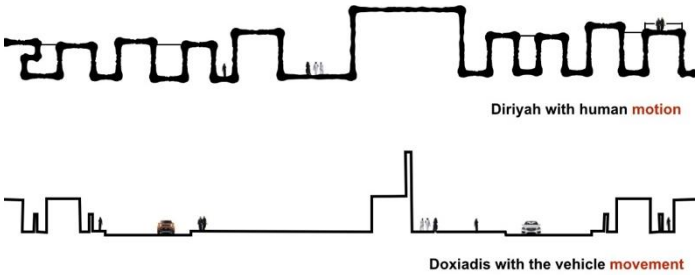

Figure 15. Townscape Sections of Diriyah &

Homes were built adjacent to Wadi Hanifa. Diriyah is the old town, and an extension of habitable area sustained by the watershed, Wadi Hanifa that changes its speed and level seasonally or at every turn of the flow, slow and fast or high and low detecting air currents, temperature, and differences in pressure or composition of the air. Homes in Dir'iyah are courtyard types. Major criteria for the orientation of a house were based on how to live with dynamic flows of the watershed and deal with the climate concerns, sun, and wind. Homes in Dir'iyah produced the dynamic flow of the streets shaded and generated wind which was cooling off heated walls. (Figure 15) Streets are grown out from the openings of homes which performed inhaling and exhaling air to both parties. The town shared the watershed in the physical setting and had a communal factor of gathering, a religion. The vector of roads is set toward mosques. All elements were interactive, responsive and interconnected to each other. Recovering the interrelated forces and an intricate mixture of rhythms in its formation was not considered rationally by the Doxiadis master plan for securing the scientific expansion planning operated by the singular flow of automobiles. It can provide a scenario of networking; the strategical locations of transit bus stations in the residential blocks and the portal point of all home entries secured by definite sidewalks. Metro stops, the new communal factor will be the major flow affecting the formation of the periphery by handling

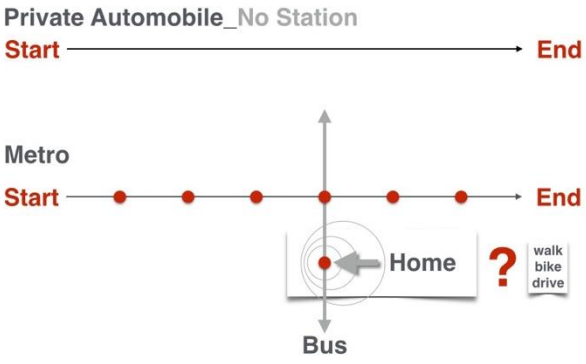

Figure 16. The potential role of Metro Stations and Bus

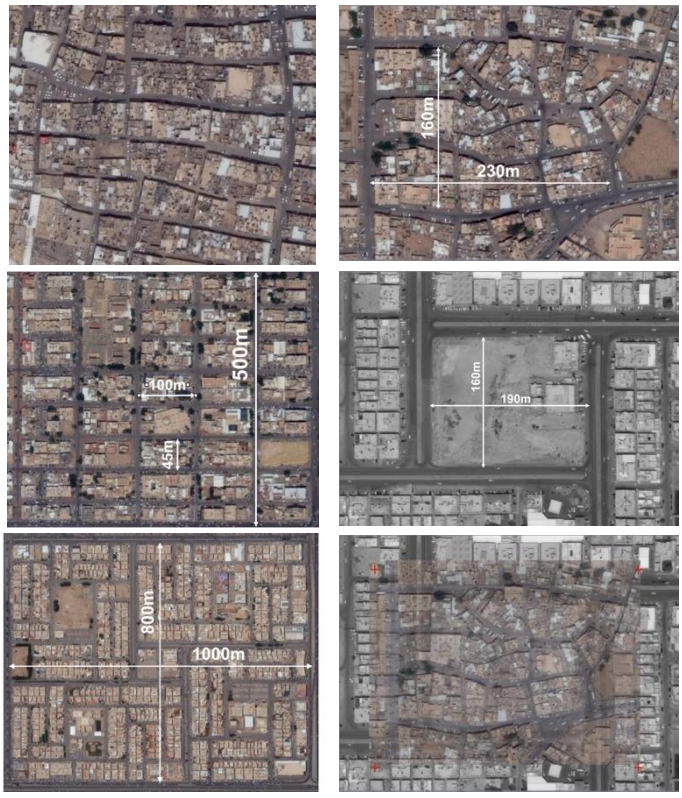

Figure 17. Riyadh Urban Fabrics (Left), Juxtaposition (Right) for Human Scale and Speed

massive flow of users, not the individual rider. The massive flow on linear paths can be branched out to multiple flows into the residential blocks as water, and wind flow bent in Diri'yah to vary the speed and scale of flows. (Figure 16) Depending on transit stops, the duration that users would spend at each bus stations, the various architectural program can be contrived. Aligning with the rhythm of mosques and prayers, the slow and staggering time in places require open space to accommodate them. The character of communal space in the block can be diversified due to arrival and departure of transit buses and various journeys to the stations of users. (Figure 17) Low density and inaccessibility of the central area of Doxiadis superblocks can be reconsidered to be a place of collecting contact points of growth taming the scale and speed. Then, there is a task to figure out what and how the sidewalks can be established to reach the center from highly confined homes.

Fence Walls as a Generator of Sidewalks

The quantity and quality of empty and unused spaces at the pinpoint center suggest transit bus stops to vitalize the communities as the origin of dynamic forces. Increasing encountering moments with needs of communities can characterize the identity. Most of the pinpoint center of wheel formation are empty. Otherwise, they are different proportionally to each other with the combination of mosques, parks, institutions, entertainment, and sports facilities with their entry points. If the locations of station become the arrival point of individual journeys departed from homes, the network of sidewalks can are confirmed correctly according to the pattern of uses. The task of confirming the location of the station is to network entry points of homes and commonplaces of an existing environment. Then, the networking will enact as the dynamic force of generating sidewalks by users. Various and constant flows generated by users can mitigate the immense scale of current pinpoint center space with unpredictable but pleasant human activities if the function of a wall and multiple openings at the frontal fence. The

Figure 18. Entry Points on Fence Walls

design process of movements from individual homes to the pinpoint center of wheel street layout can indicate social gathering places and moments to share by increasing accessibility with sidewalks. The absence of stimulating sensory experiences from one point to another means thin layers of memory of their community. Ironically, the procession of prayers, the sense of direction, and the building materials of old towns reassure the presence of the culture of highly sensitive perception on the physical ground. Along with the questions of what to share, physically diverse architectural programs in different rhythm and scale being dispersed on its 200m x 200m size plot can induce movements of various users traveled in various motion. If the constant flow of transit buses and stations of arrival, departure, and accidental encountering are injected to it, stores and facilities would be set up to attract potential customers lingering around the pinpoint, though the place would be vibrant enough with the movement of diverse neighbors with character. Typical wall s have three entries for men, women and helpers, and car. The difficulty to have even sidewalks are due to narrowly paved walks, trees in the middle of the walks, and the slope for car entry.(Figure 18) Perception of walls is universal and dominant. However, the construction process, materials, character, and usage of walls can be different in every culture. Therefore the perception delivers different cultural and social meanings. The current housing type in Riyadh was started from AL Malaz district houses where ARAMCO staffs built their houses in an American style.[12]

Figure 19. Various Programs attached on Fence

Propelled by the confusing pinpoint center layout, houses in Doxiadis' residential blocks adapted and revised the type; a house with the maximum height of 12m in the middle of the plot with 3m to 3.5m height wall fences on the property lines. It is the most dramatic change shifting the way of living. Walls and doors are the starts and end point of any journey. Typical formation of fence walls in Riyadh is different. Functions belong to the body of a house are collected and attached to them. Why do they act like the body of the house? Fence walls that are active socially in Riyadh. Many things are happening around the walls. They are the site of social contacts as they had been in Dir'riyah. (Figure 19)
Architecturally, it can be considered as an inverted condition of figure and ground. Walls performed the dual function in Dir'riyah.; boundaries and rooms. (Figure 20) The body of the home itself was the boundaries and fences which is the contrast with a housing type like an object in the middle of the plot. As shown the middle diagram in Figure 18, homes allocated on the Doxiadis master plan take a hybrid type of the traditional housing type from Dir'riyah and the ARAMCO modern housing type introduced around 1950's to Riyadh. The current housing type is a resistance striving to keep own identity in the automobile-oriented master plan; widened streets, undefined sidewalks, and noise from constant traffic flow. The function attached to the fence walls and is the real reminder of the radical living pattern of Dir'riyah in the Doxiadis master plan by adding fundamental housing elements to the wall. Walls were not a physical boundary only. They were the body of living. Current fence walls of homes in Riyadh carry out multiple functions; an event area such as a fireplace, charity water tap for strangers who need

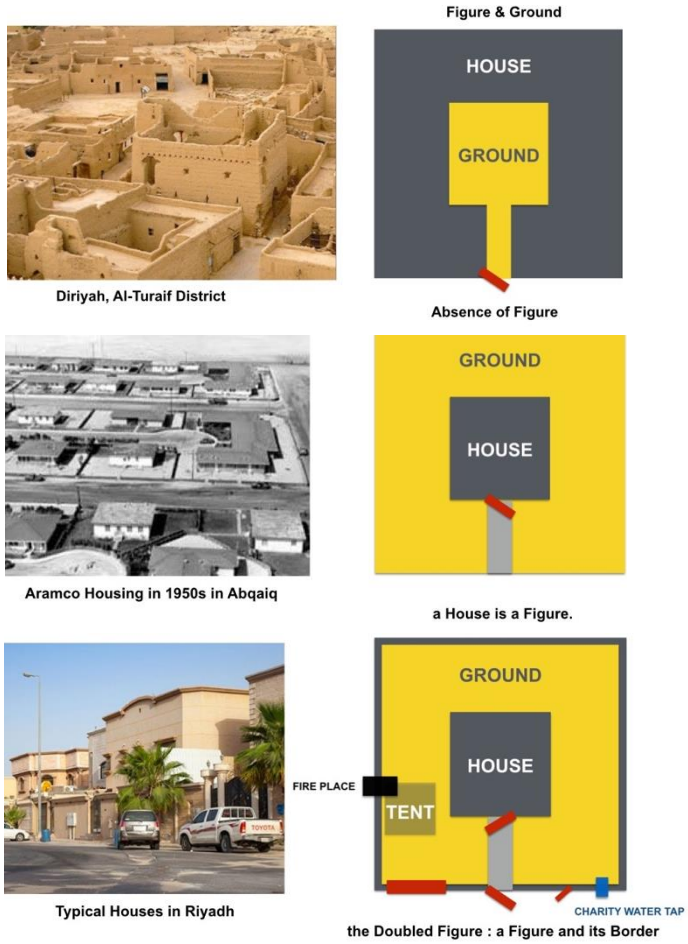

Figure 20. Evolution of Fence Walls in Riyadh

water in any circumstances, and official contact points of house utilities. (Figure 19, 20) If social contact points on fence walls can generate the line of sidewalks to reach the station, the communal space at the core of residential blocks, the dead open space can be revived as a communal space not formally but actually. The potential is evident as shown in Figure 9. Trees are planted along the fence walls hampering sidewalks to secure the shade. If the fence walls can generate shades from each house, the pedestrian walks can be attainable to reach the pinpoint of the residential block where transit bus stops will be implemented. People lingering around the station can be the start point of initiating various community programs that will vary social activities; sharing stories and gathering to grow together and enhance the living quality of communities. The local community supporting programs in the same context, transit bus stations or governmental service program can be inserted; they can attract more frequent and regular visitation to the place of the same interest. Most of the mega stores took the peripheries of superblocks to attract customers but causing traffic congestion and incomprehensible size of a parking lot at the front as illustrated in Figure 9. Currently, its parking area and its capacity played the major role in the formation of stores and public places. The composite relationship is horizontal and parallel to each other. If sidewalks networking homes to the center is clarified, the new positioning of the parking lot should be contrived correspondingly as water slows down around the rocks changing its speed and direction. Those massive plot units program and parking lots around the periphery can be fragmented and stretched into the superblocks on the line of transit bus stations for safety and commercial purpose letting the new flow go circling them fast and slow. The question is how to humanize the rational and configure urban settings in local residential blocks tacking the speed and scale with the new flow.

CONCLUDING REMARKS

The spirit which built the radical town should be recovered from the sheer layer of the rational planning. It belongs to users, who live in and with the desert, transcending undisturbed human existential value which is fundamental and so radical in forming their homes, communities, and the city with a sensitive configuration out of multi-layered extreme environmental constraints shifting in a day. Before proposing architectural programs to share, different users type and their rhythm should be investigated to register own sensitivity instead of categorizing them as potential customers. The research of this paper is collecting what and how people will react to the new rhythm if the social and cultural impacts of the rational are identified.

People walk on the street already in Riyadh. When one walks on a street, stops are mandatory to take a rest next to water, trees, walls, stores, and now stations. What is in common in all stops is the shade that emerges from own characters, not in formal representation or functional order. Before one talks about the meaning of public space in Riyadh and the identity of Riyadh, it is critical to reviving the dead center and inactive residential block designed by the rational. Sidewalks from homes to stations recalling the lost rhythm and activating homes' social contact points will be the start of Riyadh with the new public transportation networks on the rational Doxiadis' grid. (Figure 21) Public space is open to all. It yields place and time to all; locals and strangers. They belong there temporally but carry a memory of place and moment forever. It does not have to be a large open space, but flexible enough to accommodate the complexity of various rhythms in its space and time. Evidently, it is neglected and compromised due to the expansion of Riyadh with superficial imagery of modernism, locality, and automobile-oriented planning. As the major watershed gave the value to the old town of Riyadh, Al-Turaif Quarter Addir`iyah, where homes were sustained by sharing or attaining it, Wadi Hanifa, the seed of an urban form generated by Metro and transit buses will recover the logic radically. It will be the new seed as in Table 1 of social and cultural growth taking a step out from the rational, designed for expansion, turn to nurture experience of users in a vibrant city with dynamic and diverse motion in the old but new garden.

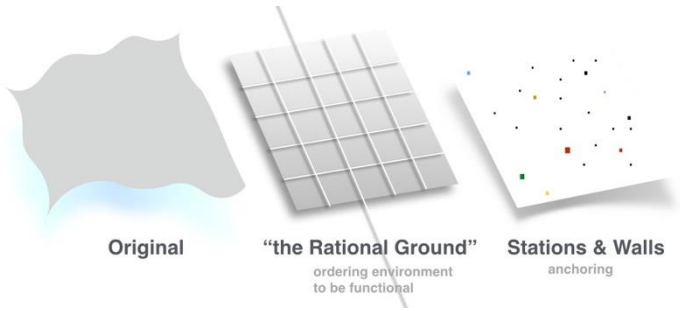

Figure 21. Diagram of Riyadh Urban

Table 1 lists potentials to elaborate on those answers. There will be six lines of Metro with 85 stations, and 4 Levels of Transit buses with 6765 stations. What if they are not homogeneous? It implies the object-oriented and rational urban planning to consider new urban field condition that various vectors are integrated that is not new ironically to the radical town of Riyadh, Diri'yah. Stations, the future urban vectors, are collecting points generating fields condition filled with various urban flows. (Figure 21) If the flows, secured sidewalks can be sustained by ramification of shade from homes, fields of urban oasis can be imaginable for sustaining a city in the desert, where people walk to stations from homes experiencing various settings stimulating engagement for multifaceted communities. It is the start of sensing and sharing own community. It becomes Riyadh. The ramification of flows of homes integrating

to each other will bring the sensitivity of the radical lived in Diri'yah back to Riyadh for building up the future city. (Figure 22)

Table 1. Urban Seeds

Scenarios	**the Rational : Doxiadis**	**the Radical : Before Doxiadis**	**the New Radical : Metro & Buses**
Design	Maser plan	Homes	"Prototype" (CHORA)
Method	Top Down / At Once	Bottom Up / Consequential	Interdisciplinary / Narrative
Tool	Highway	Water	Metro + Buses
Execution	Urban Designer	Family	Walking Distance
Expansion	Superblock	Wadi Hanifa	Sidewalks
Pattern	Grid & Pinwheel	Points	Flexible Grids
Watershed	Axis Reference	Origin of Habitation	Gathering
Priority	Absolute Figure	Flexible Ground / Orientation	Intermediate
Direction	Axis	Self Sufficient Cells	Vectors
Mobility	Private Automobiles	A Group	Public Metro & Buses
Order	Formal Hierarchy	Self Organization / Satellites	Subcenters and Rings
Background	Modernism / Geometry	Geology / Topography / Memory	Integration / Experience
Process	Scientific / Theory	Fundamental Value / Sensory	Cognitive / Difference
Surface	Superficial	Actual Ground	Dynamic Grounds
Condition	Flat / Vacuum	Sand Mounds / Atmospheric circulation	Variation / Interlocking
Texture	Asphalt (Hard)	Water, Sand, Adobe, Green (Soft)	Rail, Asphalt, Sidewalk, Green (Mixture)
Speed	Automobiles / Runaway	Horses, Camels / Individual	Metro, Buses, Cars, Bikes / Systematic
Rhythm	2D / Quantity	Wind, Water, Heat / Fludity	Cohesion
Experience	Fixed	Ramification	Emergence of Characters / Order
Physicality	Contrast	Forces	Systematic Mixture of Multi Flows
Building	Form / Mass Oriented	Territory / Points Oriented	Places / Matrixes
Movement	Linear / Simplify	Multifaceted / Responsive	Intricate / Stimulate

Architecture	Massive (

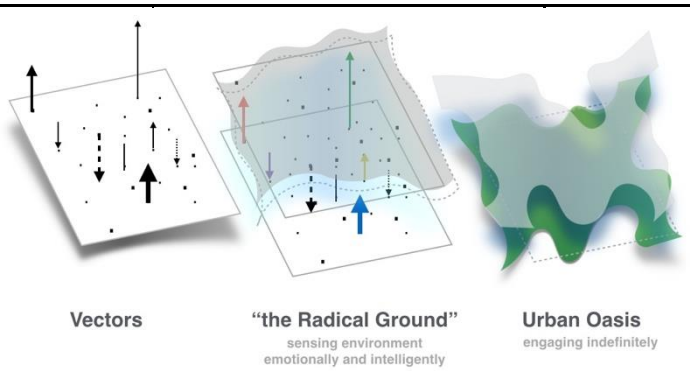

Figure 22. Field Diagram of Riyadh Urban Conditions in Variance

The change starts from the fundamental social unit, homes, that have an option of mobility and rhythm of own. What are they in Riyadh? The physical and social barriers to identifying potential sites; fence walls and the pinpoint centers of superblocks by Doxiadis as sidewalks, a new network, generator. The role of community is to stimulate and ease them to engage more to the flow with density, weight or depth, and vectors of living and pattern of uses by multiplying procession of moving one to another.
As Doxiadis had been implemented to accommodate the rapid urban expansion justifying the replacement of the existing topography, local experience, and human environment with the singularized transportation network, new pedestrian-friendly urban environment required for public transportation will generate the collective will to recover the regional human environment. Walking networks from homes to Metro will challenge the rationale of Doxiadis grid in Riyadh. The experience from homes to Metro in walking rhythm will increase the recognition of neighborhood as in intricate old town. Then local community programs will come to support users walking on the streets as seeds of a new urban oasis.

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Derby: 22-23 June 2017

IS CO-OPERATIVE HOUSING A CREATIVE SOLUTION FOR AUSTRALIA'S HOUSING AFFORDABILITY CRISIS?

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Introduction

With housing affordability in Australia expected to worsen over the next decade, it is becoming essential to find viable alternatives to the current marked-driven housing system. Many people are priced out of any secure housing, for renters and mortgage holders alike. The problem is across the board from homeless people to young people and people who are working. A staggering 50.1 per cent of low-income renter households experience housing stress (Thomas and Hall 2016). Housing researchers, housing professionals, communities and Governments are exploring a number of solutions to the current crisis. But although government policies address housing affordability, they typically focus on finding solution for home purchasers and not for renters.

Australia has a fixation on home ownership. But over time, the Great Australian Dream, owning a home on a quarter acre block, has meant different things to different people. Out-dated housing policies are preventing progress in the housing market. Made for the nuclear family, the basic social unit from 40 years ago, they simply don't reflect the modern household structures. And although Australia is not alone in its housing affordability crisis, countries such as Germany, Switzerland and Sweden with far lower rates of home ownership, seem to provide some answers. Their Governments and other stakeholders have tackled housing problems with various strategies including easy finance options for non-mainstream housing like co-operate and community housing. Likewise, their housing policies support a strong tenant ownership system (Co-operative Housing International 2017).

Alternative housing models only represent 0.06 per cent of the housing market in Australia. Commonly seen as social or welfare housing, community housing has had a difficult time gaining momentum. But overseas examples show that housing models such as co-operative and co-housing can provide cost effective and practical solutions. In Europe, the co-operative housing model has a long history of responding to market failure and has been a successful contender in increasing supply and diversity of affordable housing (Co-operative Housing International 2017).

The housing situation in Australia

Housing equality in Australia is deteriorating. The dream of a quarter acre block in the suburbs for the nuclear family has changed. And alongside, the households living in these homes have also changed. Today, Australia has a diverse range of housing structures. Single parent

households make up 16 per cent of all households, while single-person households make up 24 per cent and families with children account for 38 per cent (Australian Bureau of Statistics 2017). Such household structures are becoming more common in a more diverse Australian society. Although Australia is still a nation of homeowners, the 2017 census is showing an increase of 31 per cent of households now renting. This figure is on the rise and the predictions are that this number will climb and that more renters will rent for their entire housing career (Dallas and Dufty-Jones 2015).

Since the 1980s, housing equity concerning affordability, access and wealth distribution has deteriorated significantly (Yates 2012). This is partly due to the rising costs in housing for post baby boomer generations but as Yates (2012,3) elaborates, some of these change can be attributed to a life-style preference for renting because of the flexibility it provides in a world where changing jobs is the norm rather than the exception. Furthermore, technology is altering how we will work in the future. The very definition of an office is changing with more people finding more efficient ways of working. The daily commute to the office will soon be a thing of the past. The workplaces of tomorrow will be collaborative, flexible and mobile places, where the majority of people work remotely on a freelance basis (The Guardian 2017). And the way we live and work in the future will have a direct impact on housing options.

Yet, housing choices in Australia seem out-dated. Government policies are still directed to promote conventional home ownership. In Australia, this means ownership of a strata title or freehold title. A freehold title simply means the purchaser owns the land and building where as a strata title referrers to multiple owners of properties on one piece of land where all owners enjoy private spaces but are responsible for the areas that are shared known as 'common areas.' These models can be inflexible and do not reflect the changing households, nor do they address the 'affordability' crisis, which extends to housing stress. Detached houses still account for most homes in Australia (72 per cent) but other forms of dwelling, such as units, apartments and town housing are on the rise and now account for 25 per cent of Australian housing – all higher density residential development (Australian Bureau of Statistics 2017). But with housing affordability at an all-time low for home ownership and rents, Australian cities offer little else in regards to housing choices. Opportunities elsewhere suggest that buying a house or renting an apartment isn't the only housing arrangement available in the marketplace. Communal living options such as co-operative housing and co-housing are common forms of real estate in many parts of the developed world. Their main advantages are affordability, social and communal benefits.

As single parent households, single households and multi- generational households are becoming increasingly represented in a more diverse Australian society, Australia needs housing models that can accommodate this change. Affordability, life-style choices and changing households are driving these alternative forms of housing that have been popular overseas but have failed to make any significant impact in the Australian housing market. This is largely due to current policies on finance and housing, dating back 40 years and made for a different society. And it is these slow changing policies that make it difficult for these emerging trends to grow.

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Alternative housing models

The success of housing co-operatives is evident in many parts of the developed world. Countries like Germany, Switzerland and Sweden and many more have shared a long history of embracing different forms of housing models and co-operatives and co-housing have become well integrated in the housing market. In those countries, housing cooperatives and co-housing provide an alternative to the traditional methods of acquiring a primary residence. Democratically run, a housing co-operative is managed by its residents, who take on the responsibility for its operation. The co-operative owns the building and residents purchase shares. Residents become a shareholder in a corporation that owns the property. As a shareholder, members are entitled to the exclusive use of a housing unit in the property. Co-operative ownership offers a lot of flexibility. Tenants will still have their private spaces, but the model is based on sharing facilities. For example, this might include workshops, common rooms, laundries and cars. This allows for consuming less space individually and using fewer resources.

An alternative to co-operative is co-housing. Although the two terms are largely used interchangeably when referring to alternative housing models, the concept of co-housing differs from co-op housing in several key areas. The legal structure in co-housing falls within the mainstream concept of the familiar strata title scheme. However, co-housing differs from duplex or multi-unit housing in that more of the space is shared, enabling more efficient use of land. It is similar in principle to a granny flat development but less restrictive, allowing for more varied and flexible household groupings (MCGee and Benn 2015). Often, a co-housing community is a a non-profit housing community where a group of people, independently or in partnership with developers or building owner, organise to create a collaborative neighbourhood; an alternative way of living based on mutual respect for each other and the environment. “Private homes contain all the features of conventional homes, but residents also have access to communal facilities such as an open space, courtyards, a playground and a common house where optional shared meals are prepared and eaten with neighbours and other social events occur” (Holtzman 2012, 35).

The first modern housing co-operative was built in Rennes, France in 1720. Significant housing co-operatives first emerged around 1850 in Denmark, France, Germany, Norway and Sweden in response to the massive movements of populations from rural to urban. The idea quickly spread and in 2017, co-operative housing and co-housing have a significant presence throughout the northern European countries and the world. In Australia, co-op housing can still be linked to radicalism associated with the squatter movement of the 1970s and has failed to make any significant impact on the housing market. Despite there being over one billion members of co-operatives worldwide, this housing model has been rather sporadic in Australia ((Co-operatives Federation of New South Wales 2013). Viewed largely as a fringe or alternative-lifestyle housing model and often stigmatised as social housing, community housing is nonetheless growing in popularity, especially in the face of increasing community concern for affordability and environmental sustainability (Holtzman 2012). There is a growing trend to support flexibility and innovation in the housing market, particularly in urban Australia (Holtzman 2012).

Though each model of co-op housing is unique, they all share one fundamental element: collective ownership. Collective ownership means affordability, security, a decent place to live, and transparency in management, a strong commitment towards social goals and the possibility

of personal growth by gaining new skills and knowledge. Similarly, co-housing comes in many forms but their main focus is people centred. The physical designs encourage both social contact and private space. Both models share an interest in creating community.

Cooperative housing main characteristics	Co-housing main characteristics
Advantages	Advantages
• *The housing co-operatives own the properties and members own a share but have no equity in their units*	• *Greater cooperation between the neighbours*
• *They are non-profit: rents are based on operating costs, no dividend or interest is paid and proceeds from liquidation go to similar organisation*	• *Opportunities for the residents to interact and therefore create community.*
• *The board of directors holds the administrative and executive power in the co-operative.*	• *residents manage the physical aspects of the neighbourhood as well as the social aspects*
• *Security of tenure, affordable rents and involvement opportunity*	• *Economical advantages of sharing resources with other community members*
• *The shares are reimbursed to the members upon leaving at the original amount*	• *Mix of residents*
• *Rents in housing co-operatives are considerably lower than in private rental; an average of 20 per cent lower up to 50 per cent in larger towns*	• *Concept it is similar to a body corporate in a strata development but*
• *Most co-operatives offer complementary services – childcare, health services, social services, common activities*	• *Security*
Disadvantages	*Disadvantages*
• *Member do not own real estate*	• *Re-sale value- can be difficult as it attracts a smaller percentage of buyers*
• *Share holders pays monthly/ quarterly maintenance fees*	• *Finding tenants can be ore challenging as the committee needs to approve*
• *Share holders have to undergo a rigorous approval process*	• *Finding a mortgage lender might be more difficult*
• *Contribution or share price can be high*	• *Relying on strength of community to*
• *Restrictions imposed by corporation*	• *Restrictions imposed by community*
• *Tenants need to embrace co-op lifestyle*	• *Owners need to embrace co-housing living*

(Cooperative Housing International 2017)

Both types of housing models are innovative and have demonstrated, through design and resource sharing, the capacity to develop a neighbourhood characterised by strong social cohesion and a reduced environmental footprint (ECOS 2012). Although the positives some co-op and co-housing communities in Australia exist, neither model has made any significant impact on mainstream housing.

The situation in Europe

Alternative housing does not have as strong a foothold in the Australian housing market as in the rest of the western world. Switzerland for example has a total housing stock of 172,000 for co-op dwellings. This is 57 per cent of the non-profit rental stock and 4,3 per cent of the total housing stock in Switzerland (2011 –Federal Statistical Office). Switzerland has one dominant type of housing co-operatives, called 'membership' housing co-operatives. This type is similar to the co-operative housing model described earlier. All tenants are members of the co-operative, which grants them a preferred position. The majority of co-operatives are located in Zurich where housing co-operatives make up 20 per cent of the market. Typically co-operative housing can range in size from a few units to upwards of 5000 units. Switzerland has a long history with co-op housing and the initiative has received federal, cantonal and city-based support through financial assistance and land agreements for around 100 years (Cooperative Housing International 2017).
Kalkbreite in Zurich is a radical form of collective living for around 250 people, offering a range of apartments form one person to families or groups sharing apartments of up to 12 people. The complex was built on top of an existing tram station and includes features such as raised gardens, courtyards, a cinema and cafes. (Jones and Shelly 2016). Opened in 2014, the project is one of the most recent examples of co-operative housing. The development features a real mix of commercial and residential tenants in a vibrant Zurich neighbourhood. Often referred to as an urban laboratory due to its architecture, Kalkbreite is seen as an innovative urban development in a busy inner city location, blending 24 businesses with residences without loosing the feeling of community (Jones and Shelly 2016).

Kalkbreite co-op in Zurich
Retrieved from http://www.metropolismag.com/cities/housing/kalkbreite-co-op-zurich-cooperative-renaissance/

Similarly to the rest of the western world, Germany has a major issue with housing affordability. In Berlin, Germany's capital city, about 1,000 buildings and co-housing groups

have been developed over the last 40 years ("Co-Housing In Europe #3 : The Case Of Berlin" 2017). The community-led housing and baugruppe model is in high demand in Berlin. The term 'baugruppe' translates as 'building groups'**.** In an interview, La Fond ("Co-Housing In Europe #3 : The Case Of Berlin" 2017) explains that the availability and affordability of land combined with a surplus of apartments have created a lot of possibilities for experimenting with new forms of housing. As a city that had to be rebuilt after the war, Berlin is home to self-organized communities who turned vacant lands and buildings into squats, housing cooperatives and communities of students living together. Therefore, the city became a fantastic field of play for alternative projects, which cemented the local co-housing culture ("Co-Housing In Europe #3 : The Case Of Berlin" 2017).

In Berlin about 200,000 apartments are part of housing co-operatives, which represent about 10 per cent of the total housing stock. In the whole of Germany, co-op housing represents five per cent of the total housing stock and 10 per cent of the total rental housing stock (Cooperative Housing International 2017). Many of them have been around for decades, but there is a new generation of co-operatives emerging that emphasize the idea of a community, participation and affordability (Co-Housing In Europe #3: The Case Of Berlin 2017). Over the last five years, alternative housing communities have been growing and the projects have become bigger. The larger developments have seen professionals specialise in the planning, conceptualising and delivery of projects that create a lot of opportunities for self-organization, community life, ecology and sustainability. They are not just nice places to live, but they also integrate the whole neighbourhood through community gardening and co-working (Co-Housing In Europe #3: The Case Of Berlin 2017).

Spreefeld co-op in Berlin – Retrieved from https://citiesintransition.eu/interview/co-housing-3-the-case-of-berlin

In Sweden, co-op housing provides more than one fifth of housing
(Cooperative Housing International 2017). Just after Word War Two, the Swedish government started subsidising co-op housing in a similar way to other housing types. The tenant movement at the time quickly took advantage of this development and HSB, one of the largest housing co-

ops, was founded as part of this movement. HSB and other similar co-ops were price controlled until 1973 and subsidised until 1990, gradually expanded before being exposed to market forces. The Netherlands, Denmark and Sweden top the European list in alternative housing models. Most people associate Swedish co-housing and co-op housing with the hippie lifestyle of the 1970s, but today's updated model of communal living has come a long way. Long appreciated values like interests in self-organisation, collaboration and cooperation still exist, but recent developments show passionate engagement of increasing numbers of people from various backgrounds communities and cities, interested in forms of housing that recognise changed household structures of today, bringing a revival and new energy to this unique movement (*Cohousing Cultures:Handbook For Self-Organized, Community-Oriented And Sustainable Housing* 2012.) As one of Sweden's oldest and largest housing co-ops, HSB has 550,000 members. One of their latest developments is the Living Lab in Gothenburg. A 'Living Lab' is a research concept but for HSB and the university of Chalmers, it is also names a residential housing project for students and researchers. The project is quite radical and acts as a research platform for HSB developing the home of the future. In close collaboration with Chalmers and Gothenburg Universities, HSB uses the student housing project to experiment with different materials, products and different ways of living. The building comprises of 25 units for students and researchers on three levels. The units allow for much flexibility and the layouts can easily be reconfigured over the 10-year research period. Like other community housing projects, Living Lab includes some common spaces like community rooms, laundry facilities and an exhibition area. HSB is hoping that the research findings will provide solutions to todays housing challenges of affordability, and sustainability (Cooperative Housing International 2017).

An early artist's impression of the HSB Living Lab in 2015 – Retrieved from http://suslab.eu/partners/chalmers-th/hsb-living-lab/

Alternative housing models in Australia

In contrast to the housing situations overseas, community based housing in Australia only represents 0.06 per cent of the total housing stock (Australian Bureau of Statistics 2017). However, with a growing international attraction to alternative housing, there is interest in expanding co-operative and co-housing developments in Australia, particularly in the inner suburbs of cities. There is also a speculation that this form of housing could provide some answers to the housing affordability crisis (Co-Op Housing: An Affordable Housing Solution 2013). Although co-operative housing today does not have a strong position in the Australian housing market, this was not always the case. There are a number of co-op developments dating back to the 1990s that were considered successful and forward thinking. Cascades, a well-established cooperative housing community in Tasmania was established in 1991, and has inspired a more recent development, 'Tasman Village' in Tasmania. Similarly the Pinkarri community in Western Australia is one of a number of smaller, recent ventures into co-operative housing that is enjoying moderate success (Schwartz 2017).
Further interest for co-op housing has been expressed from the city of Fremantle in WA. The cite was inspired by Germany's Baugruppen housing co-op type developments and are hoping to build a fully council owned co-operative housing development in East Fremantle. Housing affordability is the driver for this recent pilot project in Fremantle as the medium house price in Fremantle is considerably above the medium house price in Perth. Geoffrey London, inaugural WA Government Architect (2004-2008) and former Victorian Government Architect (2008–2014), is leading the research and elaborates, " that in order to maintain a diverse community and welcome people of all types to our town, we need to look at innovative ways to house them" (Cheng 2016).

A Baugruppen development in Germany inspired the city of Fremantle. Retrieved from https://architectureau.com/articles/german-cooperative-housing-model-takes-root-in-wa/

Holtzman (2012) argues that the difference between recent attempts at community housing in Australia and their counterparts overseas is that a movement towards more sustainable lifestyles

largely drives them in an attempt to regain lost social capital, rather than affordability. Contrary to this belief, another recent project in Melbourne, the Nightingale Housing project promotes, supports and advocates for high quality affordable housing that are ecologically, socially and financially sustainable, all located in inner city suburbs. The project is the brainchild of a few Melbourne architects. United, they lead the charge on sustainable urbanisation and created Nightingale Housing, a not-for-profit social enterprise. "Each Nightingale project is a triple bottom line development model, meaning it sees investment from the future residents, a group of architects, and 25 ethical investors – mum-and-dad middle-class Australians interested in creating a social impact"(McDonald 2016). While the drivers are multiple – mitigate climate change and lessening the city's collective footprint on the earth, they also promote affordability, equitability and liveability (McDonald 2016). Nightingale currently has four projects; Nightingale 1 is under construction, with a completion date of October 2017, and the remaining three projects are all in various planning stages.

Artist impression of proposed Nightingale 3 housing in Melbourne
Retrieved from http://nightingalehousing.org/

CONCLUSION

Moving into the twenty-first century, Australia's housing industry is still dominated by housing authorities that tightly control the market. Although Australian household structures have changed significantly over the last few decades, housing consumers still struggle to initiate housing developments different to detached housing. Further more, households struggle to find adequate and affordable housing in their neighbourhoods due to insufficient income and high rents or house prices (McMahon 2013). But there is evidence that many Australian households would welcome more housing options, valued in many parts of the western world. Community oriented housing has become rather mainstream internationally and people enjoy real cost benefits. Residents live close to work, can eliminate car use, enjoy community life and there is the added possibility to integrate commercial services like childcare as part of the development. Costs stay lower because rents are not market based and purchases are cheaper because often the community members themselves act as developers, self-managing the property or ethical investors agree to a capped low profit margin. Australia has several hybrid models of community housing, a fusion of the corporation owned/shareholder co-op model and the

common (yet different) strata title co-housing model. Many are successful and current initiatives driven by consumer demand, ethical investors and forward thinking professionals show promising signs in upsetting the status quo of speculative housing. But can these few, new, progressive and innovative community oriented housing projects change the mindset of a nation, who wants to own everything, close the gap in the market?

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TESTING THE THEORY OF 'PLANNED COMMUNITIES': AN EXPLORATION OF THE LINK BETWEEN COMMUNITY DESIGN AND EVERYDAY LIFE THROUGH A PARTICIPATORY APPROACH

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INTRODUCTION

The interdisciplinary research project '*Place and Belonging: what can we learn from Claremont Court housing scheme?*' examines the case study of Claremont Court, a Modernist housing scheme in Edinburgh, built between 1958 and 1962 as part of the Scottish national housing drive. The research project relates to the critical understanding of the linkages between the spatial features of the place and the individual and collective sense of belonging. In particular, this paper introduces a reflection on Spence's idea to foster a sense of cross-class community in Claremont Court[1] through the design of areas dedicated to communal activities and the combination of diverse housing typologies. In fact, the scheme comprises of 63 dwellings of six different typologies, grouped in L-shaped low-rise rectangular volumes around two landscape courtyards.

Figure 1. Claremont Court housing scheme.
View of the two L-shaped volumes around the landscape courtyards

Consistently with the key principles of the postwar Scottish housing drive, this scheme aimed to improve the living conditions of the masses, enabling at the same time the idea of a mixed development, based on new meanings of home and communal life. This was a constant aspect of Spence's design approach since his appointment as President of the RIBA (1958-60): to improve the public profile of architect and drive architecture to the wider socio-political debate, sustaining the role of the architect in an era of developer-led architecture[2].

The original social approach contributes in making Claremont Court a relevant case study within the broader framework of Modernist housing in UK. Although Spence did not make explicit his theoretical agenda, the spatiality of Claremont Court may suggest connections with the avant-gardist theory of a planned community, developed by the Team X as an alternative to the socially alienating developments proposed by the orthodox Modernism. According to the Team X, spatial hierarchy was essential for social life to function and to foster a sense of community. This principle has been translated into specific architectural features, such as grouped medium-rise blocks, joined by open decks for pedestrians or organized around communal courtyards[3].

This paper first contextualises Claremont Court project as an advocacy of the idea of planned communities. In the following section, it is introduced the link between architectural features and community behaviours, taking Coleman's study on post war mass housing in Britain as the starting point. Finally, the authors discuss the outputs of a participatory workshop, through which the effectiveness of Spence's attempt in relation to current spatial practices has been assessed.

THE DESIGN OF A 'CROSS-CLASS' COMMUNITY IN CLAREMONT COURT

Inspired by traditional patterns of socialization, the thesis of planned communities linked spatial arrangement and social behaviour. In particular, Claremont Court is considered here as a relevant case study to analyse and interpret how architectural spaces in postwar mass housing design have enabled or fostered the process of cross-class community formation.

With reference to the postwar estates designed by Spence[4], Glendinning notices how they were structured upon the principles of fostering 'community' through planning of self-contained neighbourhoods, spaciously laid out to maximise sunlight and open air, with low-rise blocks of flats and cottages, frequently in parallel rows or around cul-de-sacs[5]. In fact, Claremont Court development is set up with the six blocks facing the two internal courtyards, closing up on East Claremont Street and creating a more private secondary road for car access along the northern side. This ensured a clear division between pedestrian, bikes and car accesses, provided the scheme with an inner mobility system and parking provision and allowed to give the communal areas the character of enclosed spaces for the community. Thus, building on the CIAM guidelines Claremont Court dwellings were provided with open space, sunlight and integrated social facilities[6] responding to the need to improve the quality of life in residential areas. Raising the living standard of the masses and promoting the creation of inclusive communities were ideas carried out by Spence in the postwar period, consistently with his public commitment as RIBA president. By doing so, he tried to translate into architectural language the Modernist ideal of designing houses *'for all'*[7]. This involved a radical rethinking of the type of users the units were addressed to, as suggested for the very first time on the occasion of the cutting-edge exhibition '*Britain Can Make It*' in 1946 and later the *'Ideal Home Exhibition'* 1949. In fact, Claremont Court includes overall thirteen housing types, such as two-bedroom flats and maisonettes, cottages for the elderly[8] as well as one-bedroom dwelling units, offering a home of own's

own to new family types (married couples with no children or single people, including the increasing proportion of working women).
According to Spence, a sense of community and belonging could be created through casual encounters in the stairs and drying areas, informal chats on the balconies and by sharing common facilities. Consistently with the Smithsons' theories at the time, vertical living was seen as a cause of lack of social contact among neighbours, while generously sized public areas, with open decks, and triple-height crossings were considered able to '*invite one to linger and pass the time of day'*[9]. Similarly, Basil Spence paid attention to the design of stairwells (mainly at the junctions across different blocks) and open decks. With these premises, the spacious landing at the junction of blocks I and II would allow members of the two families to engage in conversation when coming in and out or using the refuse chute. Also, the generous stairwell allowed easy visual contact with the adjacent floors.
Four main design actions[10] have been identified in Claremont Court through which Spence aimed to rise a sense of community and catalyse social interaction:

- Typological variety, suggesting that units were design to house different users and family groups;
- Vertical and horizontal distribution across the different blocks, with attention to the design of stairwells (mainly at the junctions across different blocks) covered walkways and open decks to increase the opportunities for neighbours' interaction;
- Units interior layouts, so that all the balconies (and in particular those serving the living room) face the courtyards and eventually facilitate neighbours' communications;
- Provision of communal areas such as the two enclosed landscape courtyards and the drying area on the roof of blocks II and IV.

ARCHITECTURAL DESIGN AND SOCIAL BEHAVIOUR IN POST-WAR HOUSING ESTATES

Building on Newman's theory of 'defensible space' (1972), in 1985 Alice Coleman conducted a comprehensive study to assess how the spatial arrangement could affect the quality of life and influence social behaviours in Modernist housing schemes. According to Newman, '*anonymity*' is one of the three principles explaining how antisocial behaviours were made difficult to prevent and most likely to happen. It is defined as "*impersonal character of areas where a community structure has failed to develop and people know few other residents, even by sight*" [11]. The lack of interaction between residents makes also difficult for them to establish relationships and co-operate as they're not sure whether they can rely on other residents. Drawing on these premises, *Utopia on Trial* reports an extensive set of data referring to over 4,000 residential blocks to demonstrate how specific architectural design features (such as corridors, types of entrance or number of storeys) have a direct impact on the residents' perception of safety and overall comfort in those residential areas[12]. Even more recent works, such as Gehel's *Life between buildings*, endorse that communities grow spontaneously when opportunities for even causal social interaction are offered within the housing's communal areas[13].
Coleman agrees with Newman on stating that community structures and behaviours are affected by the layout and spatial arrangement of the housing development. Coleman lists *'design variables and design values'*[14], divided into four main categories:

- *Size variables* (Dwellings per block, dwellings per entrance, storeys per block, storeys per dwelling);
- *Circulation variables* (Overhead walkways, interconnecting exits, vertical routes, corridor type);

- *Entrance characteristics* (Entrance position, entrance type, blocks raised above stilts, blocks raised above garages);
- *Features of the ground* (Spatial organisation, blocks in the site, access points, play areas).

Based on Coleman's classification of these design variables that typically describe the communal areas in postwar housing tenements, a photo survey has been conducted in Claremont Court focussing on: (1) *Types of entrance and relation with the street*, (2) *Covered walkways and stairwells*, (3) *Landscape courtyards*. The survey of these design variables in Claremont Court communal areas, confirmed that they are typical of some post-war Modern housing estates in Britain.

Figure 2. Claremont Court. Types of entrance and relation with the street.
Credits: Nadia Bertolino (2016)

Figure 3. Claremont Court. Covered walkways and stairwells.
Credits: Nadia Bertolino (2016)

Although an initial stage of the investigation related to communal areas was structured on Coleman's design variables, in a later stage we developed an original cross-disciplinary methodological approach to integrate the data describing the physical space with the community's perception of those areas. In fact, as Coleman noticed, during the interviews, interestingly a large number of participants "*voiced criticism of the common parts of the block without specifying precisely which*"[15]. Similarly, throughout the first and second round of interviews with the research participants, we collected a number of complaints in relation to the quality and maintenance of the shared spaces in Claremont Court, with interviewees reporting uncomfortable feelings attached to these. For example, Nicolas and David, a young couple in their thirties who recently moved to the court, highlighted the gap between the outdoor areas, perceived as unsafe, and the familiar, safe interior. With particular reference to the open-deck access, for them this type of access *'has maybe a stigma to it'*[16].

INVESTIGATING COMMUNITY AND SENSE OF BELONGING THROUGH A PARTICIPATORY APPROACH

The variety of research strategies that we have applied to the case-study responds to the understanding of place as a physical and socio-cultural reality[17]. According to the theoretical

framework underpinning the project, we consider places as "*repositories and contexts within which interpersonal, community, and cultural relationships occur*", and "*it is to those social relationships, not just place qua place, to which people are attached*"[18]. With these premises, biographical and photo-elicitation interviews allowed us to study verbal behaviours, while the outcomes of the interactive session described in the following sections helped us understand more critically what are those spatial factors affecting the development of a sense of belonging to Claremont Court.

Most scholarship on place relates place attachment to place identity, which is intended as "*a component of personal identity"*[19] and the process through which people come to describe themselves as belonging to a particular place and adopting identifications which reflect places[20].

In the case of Claremont Court, we assumed that the sense of attachment to the place can be of a different nature if we refer to the private space of the dwelling or to the communal areas of the development, such as the landscape courtyard and the roof terrace.

The novel methodology we developed included a session of data gathering through a participatory workshop, organised in November 2016 in partnership with Claremont Court Residents Association. Voluntary research participants have been recruited through word of mouth and by circulating an email invitation among the members of the Residents Association.

The findings of this facilitators-led workshop allowed us to test the original intention of designing a community in the '60s with the current communal life in Claremont Court.

Figure 4. Community workshop with Claremont Court residents.
Credits: Nadia Bertolino (2016)

Workshop methodology

The workshop aimed at understanding the users' perception of the shared spaces in Claremont Court and defining a hierarchy of elements according to their criteria. During the workshop, the participants have been invited to take part in two main facilitators-led activities. First, they have been asked to sketch their 'mental map' of Claremont Court, where the architectural space resulted distorted according to the individual perception that one had of such a familiar place.

Inspired by Robinson's exercise[21], the process of developing a cognitive image of Claremont Court served to develop the ability to gain a spatial understanding of the place and reflect on the meaning that the individuals associated to that place. The cognitive images varied from person to person and were shaped heavily by past experiences, personal perceptions and their everyday lives: "*Cognitive mapping is a process of a series of psychological transformations by which an individual acquires, stores, recalls, and decodes information about the relative locations and attributes of the phenomena in his everyday spatial environment*"[22]. However, when different individuals relied on some of the same features in composing their mental maps (such as oversizing the parking area, or putting

landscape elements at the core of their map) they intended to reinforce the importance of these features in representing the physical environment.
The second type of activities complemented the mental maps and allowed to decode hidden meanings attached to the representation of the place. The participants were given a simplified map of the court and asked to highlight (through icons): A. *Where the neighbours you interact with most frequently live*; B. *The access you use more frequently*; C. *Your path to go home/go out*; D. *Your most-liked places in Claremont Court*; E. *Your least-liked places in Claremont Court*. Some of them, added key-words to explain more effectively positive (such as *open, pleasant, scenic* etc…) or negative feelings (such as *messy, dark, oppressive* etc...) associated to the place.
The outcome of this second stage, overlapped with the mental maps, and compared with Coleman's findings confirmed or denied some initial assumption about the community perception of the place and the sense of attachment.

Perception, attachment and sense of belonging: a visual narrative

The outputs produced by the participants in the short time given provided an interestingly rich variety of clues for critically understanding the character of the communal areas in Claremont Court. Some of those spaces already identified as critical by Coleman, have been confirmed to be associated to behavioural or perceptional stigma in Claremont Court too (such as the secondary stairwells and accesses from the side road where antisocial behaviours have been widely reported). However, in addition to these, the sketches suggest the need to analyse more deeply some original aspects of the communal areas in the court, such as the perception of the courtyard as a privatised community garden and the relevance of the landscape elements in it, or the pleasant feeling associated to the visual connection to Edinburgh city center.

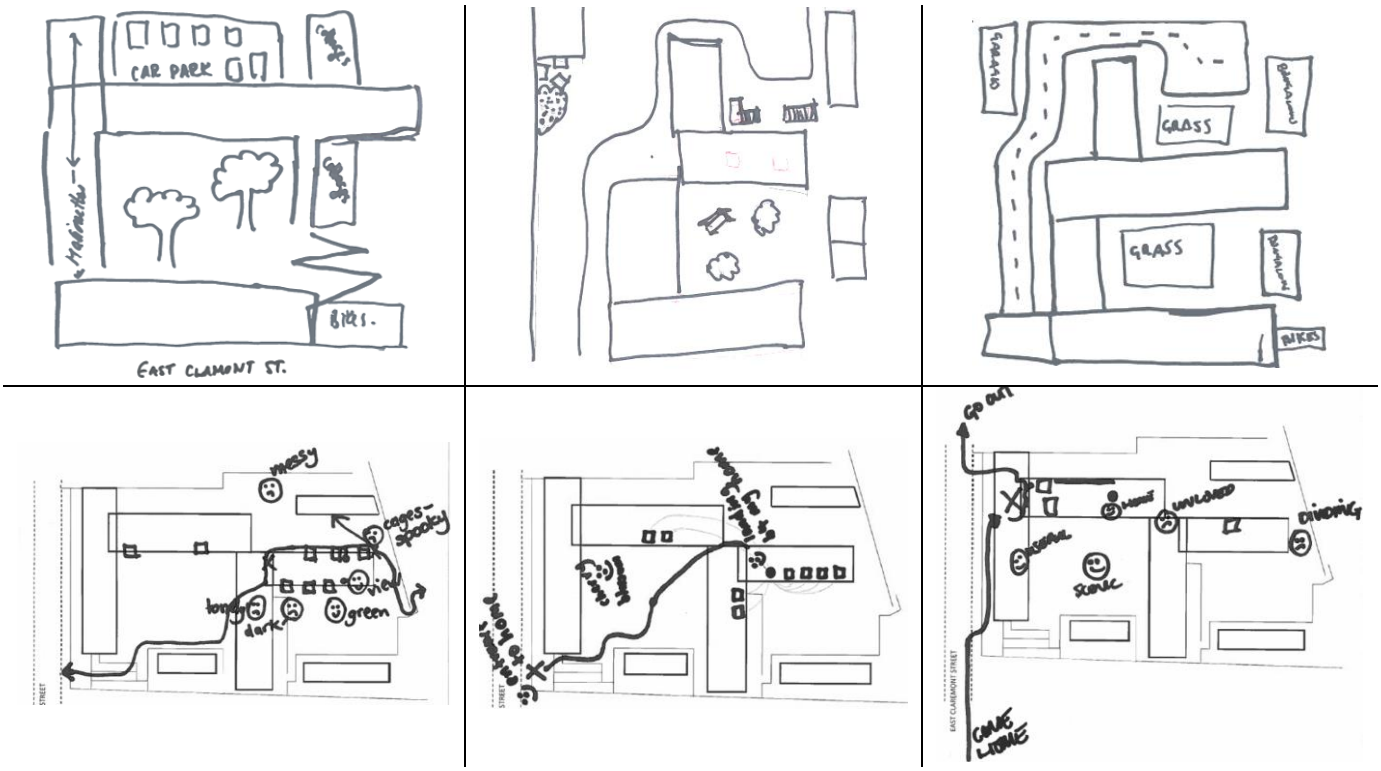

Figure 4. Samples of the sketches produced by Claremont Court residents during stage1 (top line) and stage2 (bottom line) of the participatory workshop in November 2016. .

We notice, for example, that although the design of the landscape courtyards does not correspond to Coleman's design values which make the residents perceive a place as "safe" (such as clear boundaries, private access from the public street etc.), in Claremont Court they have been sketched as *starting points* by most residents developing their cognitive map of the scheme. This partially suggests the effectiveness of creating an enclosed neighborhood to create a sense of belonging; with this premise, the courtyard could be seen as the core of a potential community life.
The two landscape areas are definitely *most-liked* spaces in Claremont Court, and positive adjectives have been associated to them. However, only 2 over 10 participants are used to cross the courtyard in their everyday in/out paths, even when they come from the main road. Instead, they bypass the (intended) main access and use secondary accesses, although most residents associate bad feelings to these, reported antisocial behaviour and lack of maintenance, consistently with Coleman observation.

CONCLUDING REMARKS AND FUTURE RESEARCH

This work contributes to the still open debate on the idea of 'planned communities'[23] and questions, in particular, whether the provision of communal areas (such as open decks or landscape courtyards) within post-war residential clusters have been able to replace and reproduce the liveliness of the street in working class districts. Just before the design of Claremont Court began, Young and Willmott's influential assessment of post-war housing estates had criticized their alienating loss of community and social solidarity[24]. We questioned if Spence's intention to build up a cross-class community could be seen as a response to the growing negative view of the estates of the 1930s and 1950s as less social than other housing forms.
In particular, this paper focused on the value of the communal areas as places able to catalyse processes of social interaction and foster a sense of belonging. To this extent, the outputs of the participatory workshop allowed us to make a critical reflection on the effectiveness of Spence's attempt in relation to current spatial practices in Claremont Court.
A future stage of this research project will put the findings of the photo-survey and the narrative originated from the community workshop in relation to the verbal behaviours included in the interview. This will allow a comprehensive understanding of the physical and socio-cultural evidences determining a sense of belonging to the place.

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CITIES, COMMUNITIES AND HOMES AS BLIND FIELDS: A LEFEBVREIAN ANALYSIS

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The understanding of cities, communities and homes, rather than being discrete autonomous entities, can be seen as parts of the same *continuum*, which parallelly reveals our failure in projecting them in a cohesive way. In our attempt to find where is the origin of such a disconnection, we are paradoxically sent back to the origin of architecture as an official discipline. The formality of the Acropolis and the Roman Forum, have little to do with the rich messiness of the homes that created most of the urban tissue in ancient Athens or Rome[i]. The causal processes generating the civic fabrics of the old cities were always far from the commandeering decisions in charge of the significant architecture that provided the formal architectural monumentality to the city. This disconnection was an unintended expression of the social and economic differences between the socio-political *elite* and the common people inhabiting these cities, difference that became much more evident in the capital cities, where the political power is usually more explicitly manifested. Cities were planned with a strong dismissal of the community life and the differences between the official architecture serving the status quo and the casual character of the architecture of homes became a very clear expression of this disconnection. Official architecture was from its beginning an authoritarian tool for expressing power and we are still under the influence of this *stigma* that explains the disconnection between cities (a political entity), communities (a social one), and the homes (as the frame for the emotional unit of human cohabitation). Even when we recognize in each of us the confluence of an emotional human being, a social person (etymologically coming from *per sonnare* --for sounding--, an italian opera mask that amplified the voice), and a political citizen; these differences become pathological when one of these roles acts against the others. This confrontation is at the base of the disconnection we are trying to explain in this paper.

If we study the urban fabric of more politically neutral old cities, as for instance any small village in so many places all over the world, we can notice a much stronger feeling of connectivity between these three levels of cohabitation. In these relatively politically inactive places, we can recognize the importance of the residential fabric in creating the public space—which also entails framing and accommodating community life— resulting in cities with a very strong identity and a very effective way of functioning as a social institution. In these places the official planning and architecture are almost non-existent and even if they manifest in specific moments (as in a church or the city hall), they are usually embedded into the civil fabric. It does this with a very moving modesty that tries to recognize the importance of homes and communities (the emotional and social glue of the city) against its own political expression of power.

If we observe the informal settlements, (where the official architecture is non-existent based on its subversive condition and its intentional denial of political statements), we could find communities extraordinarily resilient— a resiliency that's based on their social and affectional ties (in its community and homely values). Hence the slums became efficient territories of self-governance and social resiliency that resist the political control, and not surprisingly, the authorities have tried to discredit them historically through the false identification between anarchy and chaos[ii]. The efficiency

of these territories of anarchy is also a reflexion of its condition as *an-architecture* (or without-leader-for-the-built).
Tracking this issue throughout the Twentieth Century, we find a continuation of the disconnection between the three scales of a city's making.
The Modernist Movement in architecture was extremely focused on the idea of the whole city as an artefact, planning carefully how the different parts of the machinery would work together with a very scarce consideration of how this would affect the two minor scales-communities and homes. Coming from a mechanistic clockwork universe model, modern planners usually refused the existing communities of the city as a fundamental base for the planning and they were very reticent to accept the existing entities as a necessary background of the new planning. Instead of thinking in terms of emergence and evolution, the pursuit of novelty pervaded modernity. The arrogance of the modern planner wasn't so different to the one of the modern artist, and both expressedly refused to regard any pre-existent norm as necessary or valid anymore. In the smaller scale of the house, the modern architect systematically ignored people's concerns and aspirations, creating with this a growing gap between architects and society, a gap that lasts to this day. The question about a more affective consideration of the habitation was also a strong controversy between the modern architects themselves, which finally caused the dissolution of the CIAM tangled in the *habitat* discussions.
The second significant moment in the planning of the city during the Twentieth Century was the suburban phenomenon that spread especially in the post-war period. The *New Towns* in United Kingdom were a romantic recuperation of Ebenezer Howard's old idea of the Garden City, based on the recognition of the modern planner's failure of dealing with the complexity of the modern city. Confused between the plans for the post-war reconstruction, the New Towns were a clear dissolution of the city as it overplayed a home-focused plan. The bucolic idea of living in the country in poor quality architecture stylized with a neo-vernacular cliche was sold to the people (usually young families from the low-medium class) as a classy object of desire and they bought it as a possibility for skipping their meaningless lives. The houses were carefully planned following design manuals developed by the British Government's design offices with the idea of engaging people not through architectonic quality but with a kind of social-realism-populism formula. The operation was also done with an absolute dismissal of the existing communities living in the small places where the New Towns were established, creating with this irresolvable conflicts between new and old inhabitants. The social and racial uniformity of the new communities made authentic *"social ghettos"*[iii] from the New Towns, and the program resulted in a deafening failure to create community identities causing paradoxically the dissolution of the pre-existing ones.
In the American context, the development of the suburbia was suffering similar problems. Based also in the idea of selling dream-homes for the middle class, the post-war extension of American suburbs wasn't rooted in the growing complexity of the existing city, but in the recognition of an American idiosyncrasy grounded in the denial of a life-in-community. The settlers' spirit was established as a one-on-one connection between the inhabitants and the inhabited land, as Frank Lloyd Wright had reflected in his Broadacre City—an anti-city utopia for the American urbanism in 1932 (based on his ideas expressed in same year book, *The Disappearing City*). The *Case Study Houses* program—launched by the magazine *Arts and Architecture* and supported by public initiative after the World War II— included proposals by some of the most significant American modern architects and it was just nothing more than a modern-style-home option for materializing the official idea of rehoming three millions soldiers coming back from the front in suburban neighbourhoods. The architecture of the house had little effect on generating a thriving community and inversely, the spreading sprawl only had a negative impact on the communities. The suburban phenomenon in both contexts wasn't exempt of political and economic intentions, and resulted in a huge *fiasco* in creating community life and social resiliency. This was again a consequence of a home-based thinking dismissing the city and the communities.

In both cases—British New Towns and American Suburbia—the ultimate victim was the *third place*. Ray Oldenburg defines third places as in between places that allow an informal public life, such as the American taverns, the British Pub, the coffee shops, the food carts etc. Since the discipline of architecture was concerned only with the formal processes, it disregarded the importance of the third places as a social glue that holds the first place (home) and second place (work). We assert that these places were lost in the blind-fields of modernity.

If we look at the self-called American New Urbanism, as one of the most successful trends in American city planning since the 1990s, we can find again the recurrent disconnection between the three scales studied in this paper. In this case, based on a pretentious idea of community, all the principles defended by the New Urbanism (including the idea of the Transit-Oriented Development) are deeply suburban, denying the city as a more complex way of living. New Urbanism proposes a planning based on the idea of community, but with a very poor understanding of what the communal is, caught in the idea of a controlled neighbourhood where problems of scale doesn't need to be addressed and the conflict of the real city are almost non-existent, symbolized well by the orderliness of the town in *The Truman Show*. On the other hand, the homes that conform to the suburban fabrics of the New Urbanism plans are formalistic regurgitations, based on a populist elitism that uses fake materials and a collage of typologies for pretending the spontaneity of an urban village, paradoxically through strongly coded plans. In this case, the city and the homes are dismissed and the planning appears just as a tool for the creation of a community deeply rooted in the idea of exclusivity. Instead of seeing the community as a spectrum that ranges from the home to the city, New Urbanists fixated community as a discrete object in itself which is precisely why their neighbourhoods are not one. Communities happen in productive cracks between the homes, in aggregation and in their relation to the city, and cannot exist independently without these relational aspects.

With a modernity focused in the city as an artefact at the beginning of the Century, a suburban trend centred on the home in the second half, and New Urbanism referring (very poorly) to the community at the end; the Twentieth Century has been a confirmation of the difficulties of thinking in a cohesive way about cities, communities and homes for fronting the planning of the city.

Henri Lefebvre pointed in his book *The Urban Revolution* (1970) a similar phenomenon. He said that the three fields that started the transformation of the people's life from the Industrial Revolution--the rural, the industrial and the urban--showed a common difficulty in being thought of together despite their interdependence. The rural environment covering our basic needs, the industrial one framing the work space, and the urban context as the place for the enjoyment; conform a whole scope of the human beings' activities, a "tripartite division that is found... in every social practice"[iv]. Between these fields which Lefebvre qualified as "regions of force and conflict"[v], there are "blind fields"[vi] that we are not able to see and that are very significant for understanding the connections between the fields and their hybrid conditions. This effect is due to **blinding causes** --the luminous sources--, which Lefebvre identify with **knowledge and ideology**[vii] as inevitable factors that strongly condition the way we see things. These factors are also able to explain the impossibility of thinking cities, communities and homes, as interconnected realities, very strongly in the Twentieth Century.

An ambience of extreme rationality, increasingly growing from the Industrial Revolution's Era, was strongly present in the architectural avant garde at the beginning of the Twentieth Century. Although some of the avant garde master's writings were a confusing mix of reason and emotions --as Walter Gropius or Le Corbusier, for instance-- the rationality was in the end the argument more publicized for explaining the new architecture. The same idea is seen in the International Style, which portrayed itself as an undeniable architectural truth, which was rooted in this scientific mode where **knowledge** is the definitive target of human facts and, as universal knowledge, do not need to change due to contextual situations. From this understanding, the planning of the city became an engineering fact with the ambition of being able to predict and accommodate the complexity of the urban fact for whichever community in whatever time. The modern architects committed to this gigantic task, blinded with the arrogant attitude of believing being in possession of the truth, dismissed radically the

consideration about the way of living of the communities and the emotional comfort of their homes coming from social bonds. These were insignificant pieces of the urban machine, not that important for a smooth run. Recently, Isabella Stengers questions this blindness coming from the belief of possession of knowledge and advises towards a more cosmopolitical plural accommodation of various forms of knowledge system, not just uncritically upholding a scientific epistemology[viii].

If we think now about the suburban phenomenon, from the English New Towns to the American sprawl, we recognize the presence of the other blinding factor mentioned by Lefebvre: **ideology**. The suburban city was ideologically charged in two ways, from the bottom up and from the top bottom (from the inhabitant's perspective and from the administration's one, respectively). From the user's point of view the proposal was appealing because it was based in an ideal way of living that resisted the existing city conditions (urban and communal) for promoting an individualistic life in a more rural context. From the perspective of the administration, the operation was charged with an economic and political ideology that tried to be unnoticed, but no less authoritarian. In the English's New Towns, the proposal was a hidden system of land property nationalization, because it gave to the Government a protected privilege to acquire land as rural and sell it as urban getting back with this an important added value. In the case of the American suburban development, the relationship between the sprawl phenomenon and the Government financial support benefiting the interstate highway system instead of promoting the urban public transportation, is very well known. It clearly shows ideological statements being manifested which favoured the car and the mass-produced-houses industries. In both cases, the English and the American, the government support for the suburban was also a tacit political ideology of mass control through isolation. So, ideology was, in a very wide sense, the blinding factor for projecting the suburban, focusing on an individual perspective with dismissal of the city and community approaches. Third places are also where political dissent happens and communities are shaped, hence, it is easy to notice the simultaneous decimation of both the third places and politically mature citizens.

Now, in the case of the American New Urbanism, we find a subversion of ideology as the blinding factor, which is **demagogy**. This concept is a popularization of ideology and is a political ruse based on invoking people's emotions instead of people's reason, more as a marketing strategy. New Urbanism in essence is, as David Harvey mentioned, a "communitarian trap"[ix], selling to the people an idea of community "privileging spatial form over social processes"[x], resulting in ghettos where people are willing to live attracted by the social image of living in community more than by the real fact of a communitarian shared experience. As Harvey pointed, living in community in New Urbanism is a code-word for controlling the community, as a guarantee of social order[xi]. The accumulation of keep-out signs and the deathly calm of most of the New Urbanism's developments are very clear proofs of these realities. To build "places people love", the New Urbanism's motto, is the peak of demagogic rhetoric, a blatant call to the people's emotional affinity where architects renounce (or we should more properly say, sell) their competences. There resides a total misunderstanding of architecture as a public service and as in any other professionally curated public service, the goal is to deliver the best quality product for the wellbeing of the people, both as an individual and as a community (case in point is a doctor not only being responsible for personal health but also for the public health issues). No doctor would recommend junk food, even if people love it, because this would be a dismissal of his/her professional competences. In any other socially engaged professional role, the New Urbanism motto sounds unprofessional, to say the least.

As we have seen, **knowledge**, **ideology** and, its populist version, **demagogy**, have been the blinding factors responsible for the strange disconnection between cities, communities and homes that we are analysing, at least in the most significant planning trends throughout the Twentieth Century. For skipping this problem in the future we would need a radical paradigmatic shift, one that is not based on the "trueness" of a single ideology or knowledge system. The new paradigm will have to be plural and employ trans-logic that allows for starting with blind fields rather than the object (homes and cities) themselves.

Richard Sennett explained in his paper *"The Open City"*[xii], that we are unnaturally expecting too high a degree of perfection from the city--and this could be applied to the other included scales: communities and homes. The city must be clean and safe, with efficient public services and economy, and also able to provide cultural stimulation and promote equality in all levels (racial, social and economic). This is the same as to think about the city as a *closed system*, which means the absolute prevalence of coherence when, as Sennett said, dissonance is a more strong condition in contemporary life. The tendency to understand the city as a closed system also entails the rejection of any phenomenon that doesn't fit the clean classification. As Sennett argued, they are "contestatory or disorienting"[xiii], which is another way to understand the dismissal of the in betweenness, the Lefebvreian's blinded fields. These ideas are not different to Lefebvre's conclusion in *The Urban Revolution*, where he complained about the fact that "concrete space has been replaced with abstract space"[xiv]. Concrete space is not only physical but also metaphysical (including the intangible), and especially, we could say, pataphysical (which means the inclusion of the exceptional); hence it is extremely difficult to be planned in a closed way. The architect and the planner have been traditionally working in an abstract space with the illusion that things can be overdetermined, and from their abstract world they can reproduce the wild and exciting reality of lived experience with all its contradictions and conflicts.

When Sennett claimed for the qualities that has to be considered for the design of the open city (blurry edges, incomplete forms and unresolved narratives); he is insisting in the Lefebvrian *ideo-logic*[xv] blinded factors. Knowledge takes us to the definition of concepts, which also means clarity in the determination of borders and shapes, and ideology is the background for the resolved narratives. We need to avoid both as determinants of urbanism. We need to be emancipated from their stronghold on the discipline of architecture so that we can imagine beyond the given frames.

This emphasis between the open and the closed, the concrete and the abstract, and the way that all of it is entangled with the *ideo-logic* background is also a recognition of the paradigm shift from modernity to trans-modernity. In our trans-world, strict classifications are not valid anymore because we know nowadays that the significant concepts always unfold in between the formal, always in flux in the informal spaces.

Because of this, the future design of the city cannot be accomplished without thinking about the way in which the familiar life of every citizen unfolds in a specific community and communities interact in the discussion and construction of the city; it can't be designed dismissing the connection between the political consciousness of every citizen and his/her most intimate self. Rather than a generic conceptual understanding, we would like to propose third places as a design heuristic towards rejuvenating the connection between home and the city fostering the community.

Placing third places on the design agenda is a move towards uniting the neighborhood[xvi]. What we suggest is that the design of the homes must begin with an active consideration of community spaces such as the yards, the garages, the porches, the patios, and design investigation must develop new typologies of informal communal spaces where people come together spontaneously (not a prescribed formal community center). Older typologies such as the coffeehouses, bars and taverns needs to be re-inserted into the city fabric to give a social life, a home away from home.

Beyond the blinding effect of rigid ideological/epistemic stances, trans-design configurations need to factor in the in-between socio-spatial aspects of the homes, communities and cities. Only when we allow the design to have such oscillations from the physical to the metaphysical and to the pataphysical without being dogmatic, can there be a cure to our collective blindness.

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[i] It is interesting to note here that Kropotkin observed that throughout the history of civilization two oppositional tendencies have confronted each other, “the authoritarian and the libertarian”, calling the first “the Roman” and the latter “the Popular” in Peter Kropotkin, *The State : Its Historic Role* (London: Freedom Press, 1897), 55
[ii] For a better understanding of this historical misconfusion: Peter Marshall, *Demanding The Impossible. A History of Anarchism* (Oakland: PM Press, 1997)
[iii] Charles Jencks, *Modern Movements in Architecture* (Middlesex, England: Penguin Books, 1973), p.245
[iv] Henri Lefebvre, *The Urban Revolution* (Minneapolis: University of Minnesota Press, 2003), p.32
[v] *Ibid.*, p.29
[vi] *Ibid.*
[vii] *Ibid.*, p.31
[viii] Isabelle Stengers, *Cosmopolitics I (Posthumanities),* (Minneapolis: University of Minnesota Press, 2010)
[ix] David Harvey, *“The New Urbanism and the Communitarian Trap”,* Harvard Design Magazine n.1, 1997, http://www.harvarddesignmagazine.org/issues/1/the-new-urbanism-and-the-communitarian-trap (accesed 04/18/2017)
[x] *Ibid.,* par. 4
[xi] *Ibid.,* par.10
[xii] Richard Sennet, “The open city,” in *In The Post-Urban World: Emergent Transformation of Cities and Regions in the Innovative Global Economy (Regions and Cities),* eds. Tigran Haas and Hans Westlund (London: Routledge, 2017)
[xiii] *Ibid.,* par.12
[xiv] Henri Lefebvre, *op.cit.*, p.182
[xv] Lefebvre use this term, “ideo-logic”, as a combination of knowledge and ideology as blinding factors (*Ibid.,* p.183)
[xvi] Ray Oldenburg, *The Great Good Place* (Cambridge: Da Capo Press, 1989), p.xvii

SUSTAINABLE CAMPS: SELF-ORGANISING DESIGN IN COMMUNITY CENTRES

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AN INITIATIVE FOR LOCALLY ANCHORED COLLECTIVE DESIGN AND CAPACITY-BUILDING

"Sustainable camps" is a capacity-building initiative in camps in Lebanon that have received large numbers of Syrian refugees. The initiative increases the capacity in the camps to provide learning hubs for camp inhabitants, organise different training events relevant to camp needs, as well as providing a frame for long-term collaboration on the challenges of sustainable low-cost infrastructure solutions. By collaborating with academics both abroad and in Lebanon, refugees and camp inhabitants improve their ability to use academic resources for problem-solving. They develop their capacity to participate actively and creatively in research and development work, as well as building self-confidence, gaining insights into a variety of academic specialisations, and building personal contacts and networks in academic environments.

The initiative aims to address the dual need for education and improved living conditions in the camps in Lebanon[i]. Existing community centres are used as hubs for learning, training and innovation. Young people living in the camps can thereby collaborate with students in Lebanon and abroad to develop low-cost and environmentally friendly solutions to the local infrastructure challenges, in the context of carrying out necessary repairs and upgrades. Interconnecting centres in different camps allows sharing knowledge and know-how. The research circles in this collaborative initiative bring together young refugees and camp inhabitants, local professionals, students and academic staff from Lebanese institutions and universities abroad, to improve local infrastructure, develop innovative and sustainable solutions, as well as creating livelihood opportunities.

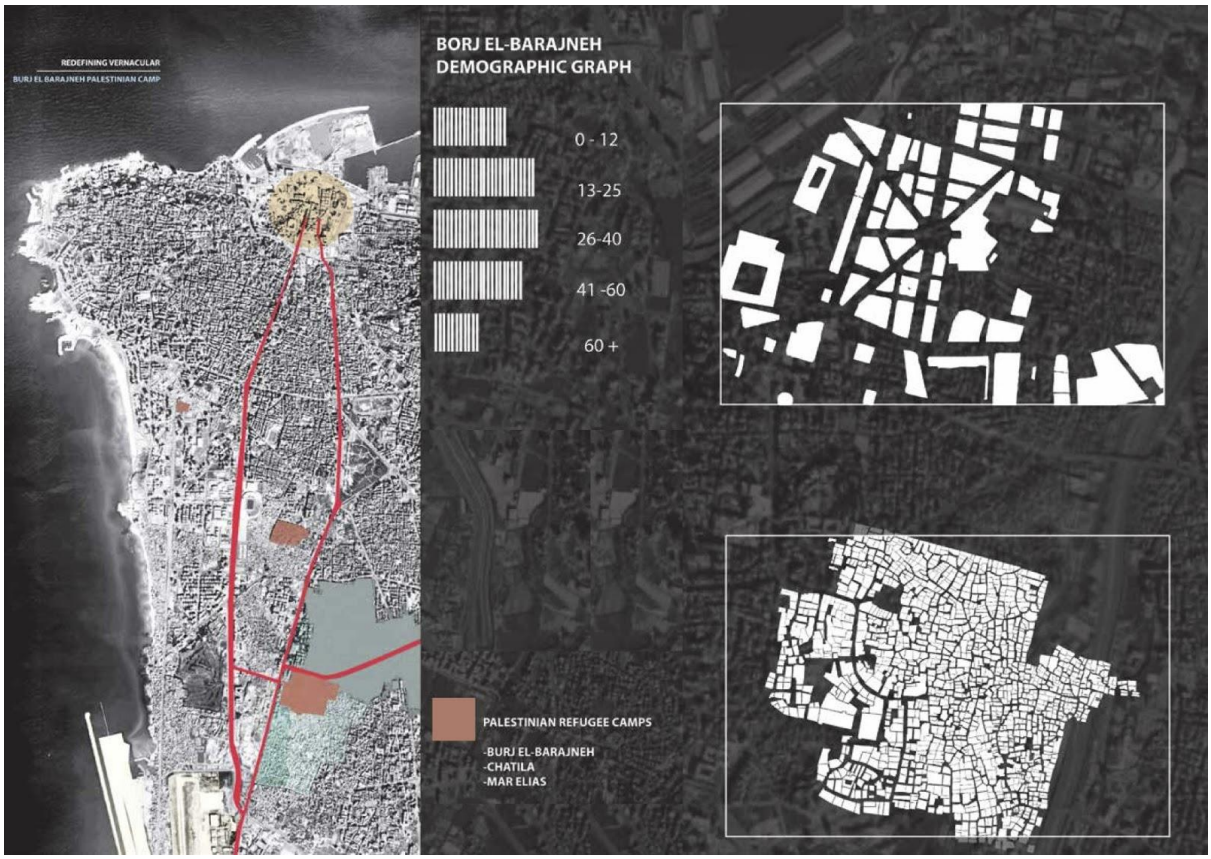
In the context of the Burj El Barajneh camp, the hub is formed by a group of architects and engineers from the camp itself, working with camp management and a network of NGOs established in the neighbourhood. The training presents some of the Scandinavian forms of higher and further education, characterised by being participant-driven, problem-solving, self-organising, creating knowledge and know-how that has direct relevance to practice[ii].

BACKGROUND

Burj El Barajneh is a neighbourhood situated in the south of Beirut, Lebanon. It is one of the twenty-two Palestinian refugee camps which were established after 1948 to accommodate the Palestinian refugees who fled or were expelled. The United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) is responsible for these refugees, and the agency's services encompass education, relief and social services, camp infrastructure and health care.

Lebanon has for several decades suffered from poverty, war, and political instability, and is not well equipped to host the largest per capita population of refugees in the world. Following different armed conflicts in the region, and most recently the Syrian crisis, the number of refugees in Lebanon has

swollen[iii], reaching altogether at least 1.5 million refugees today. Approximately half a million of these are living in the Palestinian camps. Estimates are highly uncertain however, since many refugees live in Lebanon informally, due to stringent Lebanese residency regulations and the massive crisis in neighbouring Syria. The ongoing war has not only led to a housing crisis, but also affects social relationships, and fears of conflict spill-over have been voiced[iv]. Although the war appears to have entered a new phase, many of the Syrian refugees will not be able to return in the foreseeable future[v].



General map of Beirut with locations of Palestinian camps: Mar Elias, Chatila and Burj El Barajneh. With a comparative diagram of Downtown Beirut versus Burj El Barajneh Palestinian camp showing the dense urban fabric. © Nihal Halimeh, 2014

Besides the Palestinians newly arriving from Syria, camp populations have increased rapidly due to the general economic crisis, pushing migrant workers and poor Lebanese to seek the cheapest possible accommodation. Most camp inhabitants are struggling to make ends meet. Camp conditions were difficult already before the recent war, but have dramatically worsened. The pressure on infrastructure and housing has multiplied. In the case of Burj El Barajneh, the number of inhabitants has more than doubled since the start of the war in Syria.

This image shows a sign of newcomers:"Hanging clothes on the street". Syrian refugees have to hang their clothes to dry on the streets. © Nihal Halimeh, 2014

Infrastructure Challenges

The recent arrivals of Syrian refugees are placing strain on infrastructure and services[vi], particularly in low income neighbourhoods. These strains combine with the impacts of changing climate[vii], and other environmental concerns. At the same time, restricted livelihoods and skyrocketing prices of materials leave little resources to proceed with necessary upgrades and maintenance of facilities and the built environment. Desperate homeless families are prepared to live in buildings that are compromised and unsafe, since they have no other options. Poor infrastructure also leads to a vicious circle, since local workshops that could provide livelihoods depend on access to transport, power supplies, water, and effective management of wastewater, waste and fumes to minimise environmental impacts. As an example, the strains on water in Beirut[viii] have some climatic and geographical components, but very many components are social and political[ix]. Effects on low income neighbourhoods are particularly noticeable[x].

Common image of streets in Burj El Barajneh Palestinian Camp. Water pipes, electricity wires, telephone wires and internet wires are distributed by hanging over alleyways. © Nihal Halimeh, 2017

Whereas urban planning in many parts of the world takes place in stable institutional contexts that enable a centralised overview and long-term projections, the Lebanese context is multi-layered and contains a high degree of uncertainty about the future[xi]. Political factions in the city have difficulties cooperating, which affects provision of municipal services. Problems of governance have become highly visible in the debates surrounding the Beirut garbage crisis for instance[xii]. In the face of such challenges, numerous grassroots movements have emerged, with initiatives aiming to protect the environment and improve quality of life[xiii].

THE URBAN FABRIC OF BURJ EL BARAJNEH

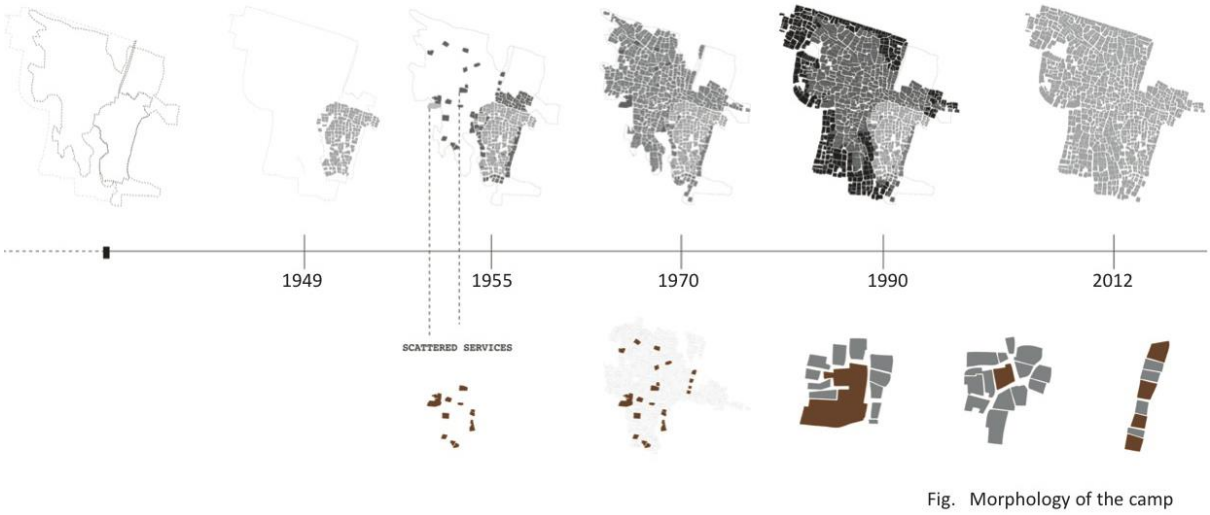
Palestinian refugees in Burj El Barajneh have defined for themselves a distinct, collective identity, closely resembling the camp's compound urban fabric, which distinguishes itself from its surrounding context[xiv]. The camp's spatial configuration has produced what may appear at a first glance as a square kilometre of brutal mass, but with further observation, we discover a complex organism designed according to the dwellers' needs and assets.

The configuration diagram of Burj El Barajneh camp bounded between highways and Lebanese communities. © Nihal Halimeh, 2014

While other refugee camps such as Shatila are arranged in grid layouts, Burj El Barajneh has grown organically according to a radial multi-focal pattern with one or several main public spaces organised around a so-called Saha (square). This resembles the fabric of Islamic cities and the towns of origin of the refugees. With time, the camp has grown seemingly randomly, producing a maze-like web of narrow alleyways and buildings, around which there are wider, vehicle-accessible roads.

The morphology of the camp is highly related to the topography of the camp site. It first started as a tented settlement on the flatter, south-eastern part of the site, and with time was replaced with tin houses and concrete block shelters with zinc-roofs and gardening terraces on the higher topography. Later these became more permanent, concrete structures with drastic height differences between ground floors (partly due to building on the terraces). At present the camp presents a dense urban fabric with concrete buildings constructed on foundations capable of supporting two stories, yet which have in most cases been built up to four or more stories. The buildings are constructed informally without any sufficient engineering and very low structural efficiency. In many cases wall slabs are only held on by a few reinforcement rods leaving them in extremely precarious positions.

Many generations of the same family live in the same building or more commonly in a cluster of buildings, forming a private courtyard for the buildings bounding it. As ground level space is used up, stories are added to accommodate the growing family. In many cases additional floors are built, into which the family move, leaving the lower floors to be rented out to earn income. However, with no consideration to safety and or building codes to regulate growth, many buildings have inadequate vertical support to hold the added levels, and others are structurally dependent on the surrounding buildings.



Morphology diagram of Burj El Barajneh Camp from 1949 to 2012. © Nihal Halimeh, 2014

It is not uncommon to see overhanging floors or in some cases tunnels between houses in narrow streets that result from added floors. Slabs are extruded from walls and column reinforcements are left exposed for possible additional floors. As taller structures are built, and old ones added, the risk of catastrophe ever increases. Any project introduced needs to deal with the issues of height and weight and reduce the use of bulky materials.

The camp dwellers are constantly having to work within the changing conditions, to find the most beneficial and profitable function for their space. For example, a ground floor space could be successively reconfigured to fit a commercial use such as a mini-market, a network-space, a barber shop, a tutor's classroom, a residential living space to be leased to newcomers, or whatever proves most useful at that time for the beneficiary.

Interfaces of Private and Public Space

The housing usually consists of a central open space with rooms built around it, the kitchens and bathrooms are located adjacent to the rooms. Over time, buildings of the same larger family have come to touch each other through series of additions. In some instances, they end up overlapping, with floors of one building sitting on the lower floors of another. This layout allows for several nuclear families of siblings, parents and grandparents, to share common spaces, such as a kitchens or bathrooms as well as the central courtyard, while conserving an acceptable level of privacy from the surrounding street and nearby buildings.

The camp at large is divided into districts relating to the refugees' villages of origin. The typology of the districts varies only slightly - most notably in building height, depending on the closeness of the community and their acceptance of foreign development in their district. Members of a group of related families can make up a block of buildings. Some of these comprise up to twenty buildings, where the only entrances to the block are from their exterior boundaries, while inside the block the separation is an interior corridor like maze. This makes such blocks appear as one large building, where the smaller buildings are its rooms. At the entrances to the houses on the ground floor level within the block, the only boundary between public and private is a door that is often found open,

leaving the private cramped sitting room exposed to the passer-by. It is surprising, given the overall cultural concerns about privacy to find some windows exposing the kitchens or living spaces.

This image was taken from a street in Burj El Barajneh camp looking through a street level house window. © Nihal Halimeh, 2017

Health Impacts

Due to the topography, streets and alleyways are not accessible to the handicapped since they often comprise steps. This renders handicapped persons totally dependent on their families and in many cases housebound and unable to reach critical destinations such as a hospital or a clinic. Another hazard is the networks of electricity cables and water pipes that run together down every street and provide a constant threat to all inhabitants. There are also many instances where electrical control boards, that are a chaotic mess of electrical wires, are exposed to rainfall. These urgently need to be cleaned up and organised at a camp-wide scale.

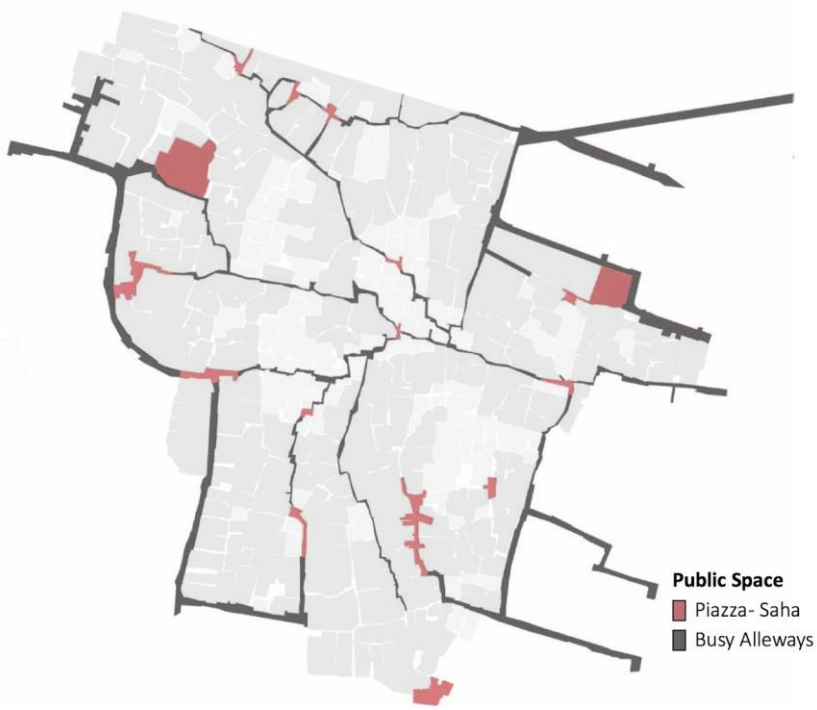
Little natural light penetrates to the street level and barely any to the ground floor rooms. Alleys are so narrow, it feels like being underground on the streets. The rooftops are favoured by the inhabitants since they now perform the functions of the inner courtyard of the traditional Islamic housing typology due to lack of horizontal space. They have in many instances been privatised with improvised temporary covering and cladding. With the recent growth vertically, the inhabitants are even moving to the higher floors, while they rent out the lower floors due to the damp and darkness.

Little natural light penetrates to the street level and barely any to the ground floor rooms. Alleys are so narrow, it feels like being underground on the streets. © Nihal Halimeh, 2017

Public Space

There is an extreme lack of public space within the camp, with most rooms shared by three people or more. The only spaces in which people can gather are the residual spaces around markets and between buildings. These so-called Sahat are scattered around the camp and include spaces created by a souk on the periphery of the camp, spaces adjacent to institutional buildings such as the UNRWA clinics, or adjacent to a mosque or Rabta (a league or society for each refugee town in Palestine). Smaller Sahat are used only by the surrounding group of buildings and are less commercial or linked to the outside of the camp. Other breathing spaces are “dead spaces” within the building blocks that are left unused or used for technical purposes only.

Palestine Piazza, the oldest Saha (Piazza) in the camp which is the only public space of neighborhood around. © Nihal Halimeh, 2017



Burj El Barajneh Camp plan showing the existing piazzas in relation to the urban fabric. Each neighbourhood resembles the refugees' village in Palestine, in which each Saha serves a neighbourhood "village". © Nihal Halimeh, 2014

The Informal Condition

The refugees have a protected "right of tenure" when it comes to their buildings, apartments or plots of land, although formal ownership resides with the government. This system has allowed refugees to sell the right to other refugees as well as to non-refugees. In this case, ownership is attained through the actual act of building the home themselves, or purchasing or inheriting it. UNRWA takes responsibility for building and rehabilitating shelters in cases that it has designated as special hardship cases (SHC). These include underprivileged households in the official camps. All other shelters are built or rehabilitated by the refugees themselves when financially possible, and after building materials have been successfully smuggled into the camp. Recently with the Syrian refugee arrival, the government has been more lenient in dealing with building materials, and as a result, numerous buildings have emerged towering over the skyline of the city. In the latter case the construction process is not regulated by building codes or laws of any kind, and according to Lebanese law these are considered illegal expansions of the camp.

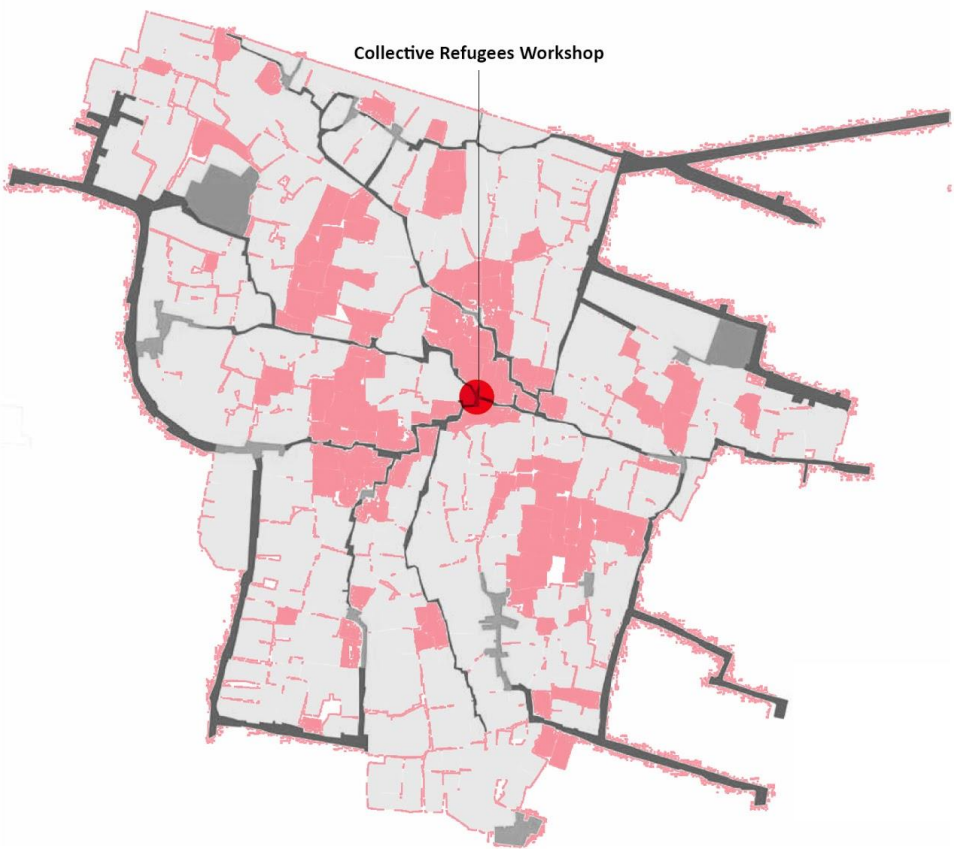
This image shows a wall-like structure formed by the camp's houses, defining it from the outside. © Nihal Halimeh, 2014

DISCUSSION

Significant international projects, such as BinUCom in India[xv] are now addressing the need for urban planning and approaches better adapted to the needs of high-density low-income neighbourhoods. With accelerating impacts of climate change and other environmental challenges, there is also added emphasis on sustainability, including resilience and proactive preventive or mitigating strategies. An important feature of BinUCom, in particular, is redesigning programme curricula and training for architects and urban planners, to better reflect needs and concerns of low-income neighbourhoods. At the same time, such approaches retain some of the limitations of conventional top-down planning. Participation of inhabitants[xvi] tends to be limited to mapping and documenting concerns, or incorporating inhabitant's feedback into curricula and city plans. The "Sustainable camps" initiative instead takes its point of departure in the people who live in refugee camps and neighbourhoods. It aims to strengthen the capacity for collective design originating from the neighbourhood itself, by networking with professionals, associations and academic environments in other places. Research circles[xvii] make it possible to mobilise resources and self-organise in developing know-how and

knowledge needed to solve practical challenges[xviii]. An objective of "Sustainable camps" is also to integrate design processes with training, so that necessary repairs and improvements can be carried out locally.

By working to improve infrastructure solutions, the initiative is in line with the needs of the host society. Importantly, "Sustainable camps" involves camp inhabitants as a community, working to improve living conditions for all, and thus does not aggravate potential friction between the host community and the Syrian refugees.



Collective refugees' workshop location, Burj El Barajneh Camp, Beirut. © Nihal Halimeh, 2017

Designing for the Future

Despite the challenges, the "island" of Burj El Barajneh has a potential to be economically self-sufficient and thriving. The sophisticated social order and unique aesthetic of Burj El Barajneh has provided its residents with a stronger community and higher quality of life than do many formal social housing projects. Underneath the overwhelming weight of air, sound and structural pollution, there is an undeniable richness that exists within this informal space.

To conclude from the example of Burj El Barajneh in Lebanon, it appears that refugee camps act as extreme cities[xix] where the issues of scale, permanence versus temporary arrangements, as well as challenges in community forming can be confronted. Their highly charged political nature provides the groundwork for operating within a tight system[xx]. Informality in settlement calls for other approaches to planning[xxi], beyond a top-down paradigm of organisation. In such contexts, collective design processes not only hold potential for local ownership and engagement, but the processes can also serve community building, by collaboratively working on visions for a shared future. Finally, at a time when environmental challenges are accelerating globally, approaches for developing low-cost

sustainable infrastructure design adapted to dense urban settings should be among our most prioritised concerns.

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RESEARCH ON THE ELDERLY MUTUAL-SUPPORT BEHAVIOUR AND SPATIAL SUPPORT CONDITION IN URBAN COMMUNITY—A CASE STUDY OF CHENGXIANJIE COMMUNITY IN NANJING, CHINA

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1. INTRODUCTION

The mutual-support pension in community is an initiative that aims to provide the elderly with timely and efficient support both in terms of spiritual comfort and daily care, while reducing social cost. Based on ideas such as the time bank, senior cohousing and etc., it has been serving as a bottom-up social and spatial strategy to tackle the aging crisis around the world, as well as in China. As a country with long moral tradition of mutual-support among neighbours, China is facing a severe challenge of population aging and an urgent demand for the elderly-oriented regeneration of the built environment in numerous old communities. In this context, it will be of great significant to have an investigation into the elderly mutual-support behaviours and spatial support condition in Chinese urban communities.

Taking the Chengxianjie Community as a case study, this research involved conducting a 200-households interview and questionnaire to investigate the social and spatial condition for the implementation of mutual-support pension. This research concentrates on the specific types of both daily-care and spiritual-comfort support behaviours among the elderly, the social relation between the support giver and receiver, as well as their preference on the types behaviour and relation. On spatial aspect, supportive spaces which support the occurrence of corresponding behaviours, as well as the geographical location of support relation, will also be investigated. This research provides a basis for a follow-up study on the Spatial Support System for the mutual-support pension initiative and also functions as a reference for retrofit of existing neighbourhood settings in old urban communities in China.

2. BACKGROUND AND RESEARCH PRECEDENTS

In order to deal with the important global challenge of population aging, human beings have explored variety of pension patterns.[1] The specific behavioural patterns and spatial demands of elderly, along with the corresponding residential patterns, will make profound challenge to the existing urban spatial system. Among various pension patterns, the mutual-support pension, which bases on residential patterns such as multi-generation housing, senior co-housing and share-a-home, begun to generate increasingly social influence around the world.[2] China's exploration on mutual-support pension sprang up in the rural areas in 1990s,[3] which at present serves as not only a strategical response to the absence of pension system in rural areas, but also a useful supplement to the formal pension system in urban areas.

Dating back to 2008, the peasants in Feixiang County, Hebei Province, began to spontaneously explore the way to regenerate the abandoned schoolhouses, and transfer them as the "Cooperation Happiness House" for the congregated living of the older people in villages. [4]Thereafter, it was brought into the "12th Five-Year Plan" and "New Countryside Construction Plan" of Hebei Province. Meanwhile, in February 2012, the Civil Affairs

Department of Hubei Province issued "The Guidance on the Pilot Work of Rural Mutual Support Pension Service", and selected 100 villages for the experimental construction. [5] Other places in China, such as Langzhong in Sichuan Province [6] and Pudong District in Shanghai, [7] also implemented policies for the exploration of mutual-support pension.

In September 2016, the government of Shanghai formally proposed to create and develop the "Informal Care System" for the aging population in "Shanghai's 13th Five-year Plan on the Development of Aging Industry"[8], with specific measurements such as "to carry out Older-Partner Plan", "to create neighbourhood support-circle", and "to encourage the reuse of idle spaces to create cooperation-sites in neighbourhood", thus to promote the implementation of mutual-support pension. According to the Plan, 2000 typical demonstration sites should be established by 2020. Besides, the 13th Five-Year Plan in Jiangsu Province (issued at March 15th, 2017) also advocated the development of mutual-support pension[9].

It is also worth noting that the old communities in China's metropolises have become the most prominent areas with aging problems. On the one hand, evidence from China's big cities such as Beijing, [10] Hangzhou[11] and Shanghai [12] has shown that the tendency of aging population's gathering to old urban communities was deepening (ZHOU Jie, 2014; WANG Jiwu, SHAO Yulian, 2015). On the other hand, the existing facilities and infrastructure, which were mostly built with low construction standard during 1980s and 1990s, could not provide sufficient support for the residents, especially the older residents, both in types and quality. Besides, those older residents were not capable to purchase service from market because of the generally low income-level[13]. At the same time, the coverage of government's service is limited. Therefore, the gap is still significant in the supply of care service for the older residents in old urban communities.

Scholars also have long been interested in older people's mutual-support. J.K. Eckert and M.I.Murrey (1984) introduced several modes developed in America for elderlies' cooperative living, such as House-Sharing, Cooperative apartment and Share-a-Home. Similar research could also be found in the articles by Lawton (1981), McConnell (1979) and Streib (1975). Glass (2009, 2012) studied the origin and development of the senior cooperative living communities in America. Jung Shi Choi (2004) evaluated the scale, planning and common activities in 28 senior cohousing communities in Northern Europe. Jo Williams (2005) studied the influence of different spatial design factors on the social interaction of residents in co-housing communities. QIAO Qi and CAI Yongjie (2014) introduced the multi-generation housing in Germany. Marian Brenton (1999) summarized three mutual-support modes among elder women in western countries.

3. RESEARCH CONTEXT AND SURVEY DESIGN

3.1 Research Context

The selection of the research object—Chengxianjie Community, Nanjing—comprehensively takes four aspects of representativeness into consideration, which are the degree of population aging, the location, the date of construction and the residential pattern. 1) The degree of population aging: Nanjing is one of the metropolises in China which confronts with the most severe challenge of population aging. According to the statistic from Jiangsu Province (Nanjing is the capital city of Jiangsu Province), 20.65% of the people in Nanjing were over 60 years old by 2015.[14] And this figure in Chengxianjie Community was higher, which was 24.09% in 2015. 2) The location: This community locates in the core area of Nanjing city, with the relative high building density and quite limited space resource, decreasing the possibility of the expansion of new facilities. 3) The date of construction: Most of the buildings in this community was constructed during 1980s and 1990s. The deterioration of the infrastructure leads to a severe demand for regeneration. 4) The residential pattern: The congregated housing, commonly with 6-7 stories, is the most general residential pattern in this

community, which also serves as a typical form in China's old urban communities. And ordinarily they are not equipped with elevators. (Figure 1.)

3.2 Survey design

The data in this research was collected by questionnaire. Considering that some older people might not be capable to finish a questionnaire by themselves, all the questionnaires in this survey were completed by the face-to-face interview between the staff and interviewee.

Due to the significant differentiation of space distribution among the residents with various income levels in this community, respondents were selected covering all the districts to ensure the representativeness. Eventually, 210 households, with householders over 60 years old, were chose to conduct the survey and 195 questionnaires are valid.

Figure 1. location and built environment of Chengxianjie Community

The content of the questionnaire is made up of four aspects, including the socio-demographic characteristics, the types of mutual-support behaviour, the social relation between the giver and receiver, and the space distribution of behaviour and relation. 1) The socio-demographic characteristics includes gender, age, education level, residential area, storey, length of residence and living condition (living alone, with spouse, with children and with nurse). 2) The types of mutual-support behaviour are divided into two categories: daily-care and spiritual-comfort. Referring to "The Community & Home Care Service Standard in Nanjing (2012)",[15] the specific content of daily-care includes meal support, medical support, housework support, bath support and emergency support. And that of spiritual-comfort includes leisure activity, health activity, culture activity and housework activity. 3) The social relation between the support objects are defined as relative (blood relation), neighbour (geographic relation), colleague (career relation), and friend (interest relation). 4) The distribution of behaviour covers three levels, including household space, downstairs and street corners, and public space around the community (community centre, squares and parks, campus). And the space distribution of the support objects refers to the support givers' and receivers' residential location.

4. FINDINGS AND DISCUSSION

4.1 Socio-Demographic Characteristics of Respondents

Referring to Figure 2, female respondents (67.2%) are nearly twice as many as males (32.8%). People aged between 76 to 80 (23%) and 66 to 70 (22%) are the major cohort, followed by 60 to 65 (17%), 81 to 85 (14%) and 71 to 75 (13%). 11% are over 86. This means that more than half of the elderly are in their middle age: less than 80 years old. As for education level, 64% of the respondents obtained middle school (36%) and high school (28%) education. A considerable 18% got higher education, while the same number was primary school education and illiteracy. Besides, 71% of the residents live in the house with 46-90 m^2. 13% are in 31-45 m^2. 4% lives in the house under 30 m^2. These two factors, education level and residential area could relatively reflect the income level of the elderly, which they were not willing to confess when interviewed. Concerning the length of residence, most of the respondents (89%) are living in the community more than 10 years, while only 11% are less than 10 years, which is a typical attribute of the old urban community. Of the living condition, 38% of the elderly are living alone. 32% are with their spouse, followed by the those with children (18%) and others (12%). Besides, 21% of the respondents claimed they had idle rooms in their house. It indicates the phenomenon of the underutilization of dwellings among elderly. Building storeys elderly live are diverse. The most frequent storey is 1 to 2 (35%), the next is 3 to 4 (26%) and 5-7 (23%). In short, quite a few older adults will confront the difficulty of getting downstairs.

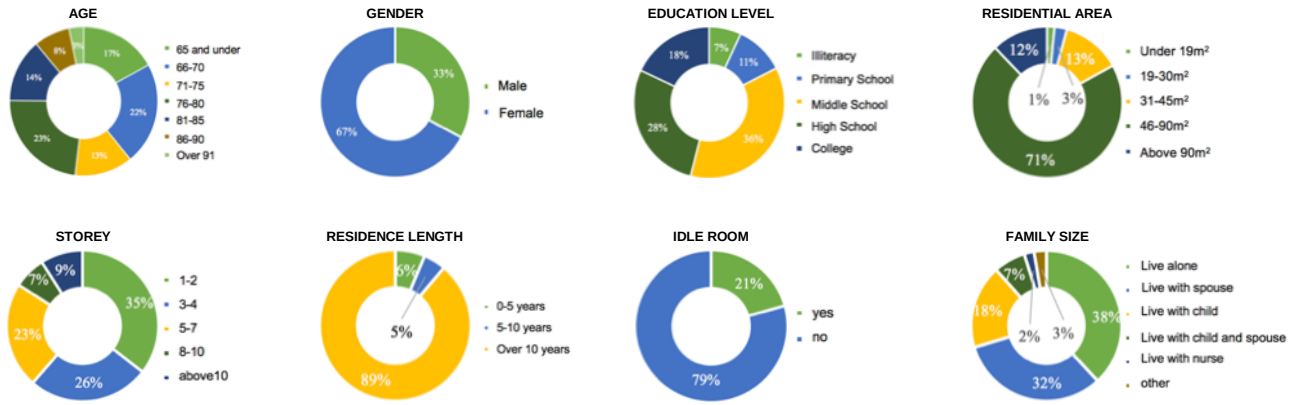

Figure 2. socio-demographic characteristics of respondents

4.2 The Behavioural and Spatial Condition of Daily-Care Support

As shown in the Figure 3, 33% of the respondents claimed that they had received or delivered daily-care support to others, while 67% hadn't. It reveals that the spontaneous mutual-support behaviour only exists among a few elderlies at present in this community, especially for those over 76. However, further investigation shows that 74% of them have the intention or preference to build up mutual-support relation with others, which contrasts with the present situation. In short, the difference between present situation and preference indicates that although due to favour, moral or other social factors, they didn't get opportunity to build up mutual-support relation, they have great demand on it.

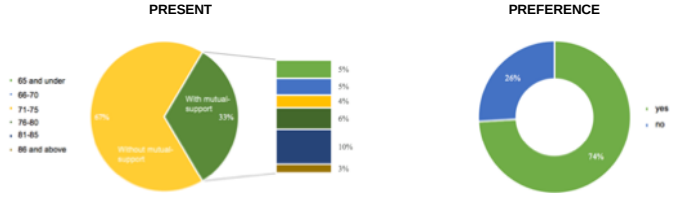

Figure 3. contrast between present and preference of mutual-support participation

The specific content of daily-care behaviour. The data was collected on both present situation and preference. As for the present situation, meal support, medical support and emergency support are most frequent among

the five, taking over 25%, 24% and 27% respectively, while the proportion of bath support (9%) and housework support (15%) are relatively low. As for the respondents' preference, the results show 40% of them are willing to build up meal support relation with others, followed by emergency support (24%) and medical support (15%) and housework support (13%). Only 8% prefer bath support. (Figure 4.)

The increase in meal support is most significant, showing this kind of behaviour is most welcomed by the older adults. According to the interview with the respondents, two major reasons account for this preference. On the one hand, to cook three meals every day is a heavy physical labour for older people. Cooking together with others could provide them with an opportunity to share this daily burden. On the other hand, in Chinese concept, dining is a great time for communication so that mutual-support on meal could provide them with social interaction at the same time. However, the drop in medical support and the low proportion in bath support are due to the value of privacy of the elderly. Unless the relation is intimate enough, or they are not willing to let others learn about their diseases and help them with bath.

The social relation between the support objects. Among the respondents who have mutual-support relation on daily-care at present, 54% is with their relatives. Next is those with neighbours (14%), with friends (9%) and with colleagues (7%). Other 16% said they got support from community stuffs. It reveals clearly that the kinship still plays a dominant role in older people's social relation. The relatively low proportion of neighbours is worth noting, because it seems to be contradicted with the fact that most older people has resided for a long time. According to the respondents' description, the intensification of population mobility in recent years decreased the stability of neighbourhood relation. Consequently, they are not familiar with their new-coming neighbours. But as for their preference, 38% choose relatives, followed by neighbours (31%), friends (19%), and colleagues (10%). It indicates that elderlies still think highly of neighbourhood relation. (Figure 5.)

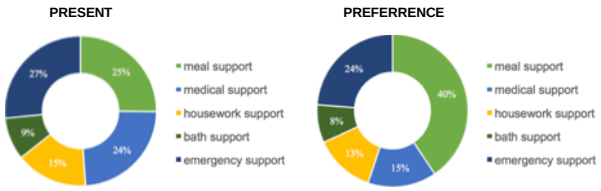

Figure 4. contrast between present and preference Of daily-care content

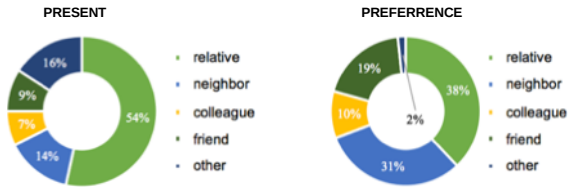

Figure 5. contrast between present and preference Of daily-care support relation

The space distribution of behaviour and objects. The statistic shows that 50% of the elderlies' supportive objects are living out of the community, followed by those living in the same building (24%). Other 26% are living inside the community. The overall average distance between the elderlies and their support objects is around 1500 metres. Besides, for the 50% who live out of the community, the average distance rises to nearly 6000 metres, which will take about 45 minutes by bus and 30 minutes by car in Nanjing. (Figure 8.)

With the change of urban life and family structure in China, the miniaturization of family size and the separation of residential space between elderlies and their children have become a norm. Most of the older people's support objects who live out of the community are their children. However, the fact is that 6000-metre distance makes it impossible for the children to provide consistent and timely support for their older parents. This could partly explain why neighbourhood relation takes a considerable proportion in old people's preference of supportive relation.

As for behaviour, most of the daily care behaviour do not need specific spatial condition for support. However, according to the household survey, most of the kitchen and dining space in the house do need regeneration to support the cooperative meal. The existing kitchen and dining space in older people's houses are generally small. Many households in the ground floor retrofit their courtyard to expand their kitchen, so there is a relative high demand for the reform of these kind of space.

4.3 The Behavioural and Spatial Condition of Spiritual-Comfort Support

The support of spiritual-comfort mainly refers to the interaction between elderly and others. According to sociology research, the social interaction is an important part of elderlies' social support, which could generate considerable emotional or psychological gratification. In addition, consistent and steady social interaction could develop into formal care relationship. The investigation on spiritual-comfort support is also designed to make a comparison between the present condition and older people's preference. Unlike daily-care support, the result between present and preference on spiritual-comfort is not significant. Thus the following analysis will focus on the present condition data.

The specific content of spiritual-comfort behaviour. Among the four categories, leisure activity is the most frequent way (41%) for the respondents to communicate with others, followed by housework activity (26%). Culture activity takes over 19%, while health activity is the least, taking only 14%. It shows that the most common interaction for older people is simply leisure activity such as chatting or playing cards. For the elder women, the housework activity, such as shopping or looking after children, also plays a dominant role in their social intercourse. While the culture activity is only preferred by some specific groups with same hobby or specialty. Little people communicate with others through health activity. (Figure 6.)

The social relation between the support objects. The data shows that friend (48%) and neighbour (31%) are two main social relations for the elderly to get spiritual-comfort support. The relative only takes over 8%, and colleague with 12%. Comparing with the composition of the social relation of daily-care support, it elaborates the fact that unless the requisite care service, elderlies rarely make connection with their relatives. Friends and neighbours serve as the most important objects of social support for the older adults. (Figure 7.)

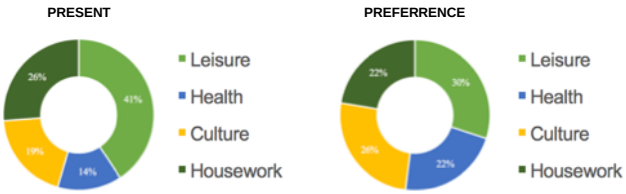

Figure 6. contrast between present and preference Of spiritual-comfort content

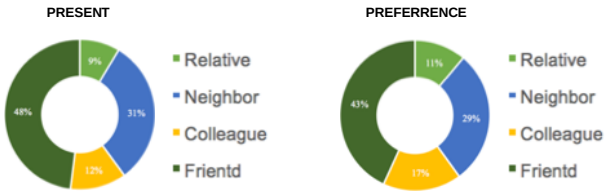

Figure 7. contrast between present and preference Of spiritual-comfort support relation

The space distribution of behaviour and objects. 58% of the older people's social objects live within the community, 37% is in the same building, while 42% are out of the community. The overall average distance between the elderly and their social objects is around 700 meters, which is much shorter than that of daily-care. And for those living out of the community, the average distance is around 3700 meters, which will take about 30 minutes by bus and 15 minutes by bike in Nanjing. It shows the geographical convenience is an essential condition for elderlies' social interaction. (Figure 9.)

As for the sites for social interaction, downstairs and street corners are most preferred (28%), followed by nearby parks and squares (20%). 18% of the respondents choose home, 17% choose campus and 14% choose community centre. This relates to the types of their social behaviour. As mentioned above, most people prefer leisure activity as their way for social interaction, so that the informal sites such as downstairs and street corners cater perfectly for the occurrence of spontaneous communication. Squares and parks mainly serve for the group activities such as square dancing. In contrast, the community centre, as a formal site, mostly serve for specific groups with specialty.

In addition, the statistic shows the overall average distance between respondents' home and their activity sites is around 250 meters, which will take 5 minutes by walk. Specifically, 81% is under 500 meters, 16% is between 500 and 1000 meters, only 3% are over 1000 meters. (Figure 10.)

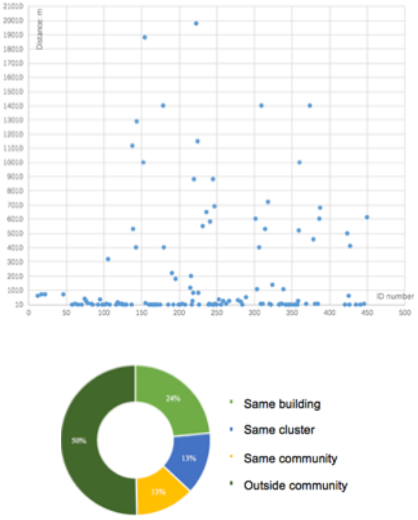

Figure 8. space distribution of daily-care objects

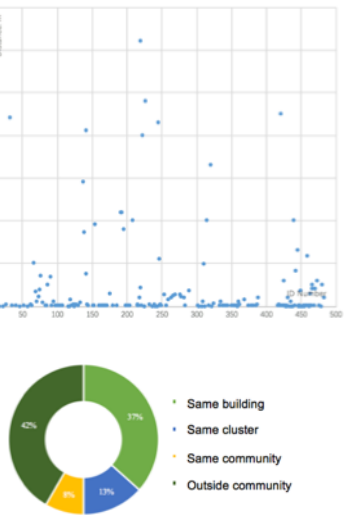

Figure 9. space distribution of spiritual-comfort objects

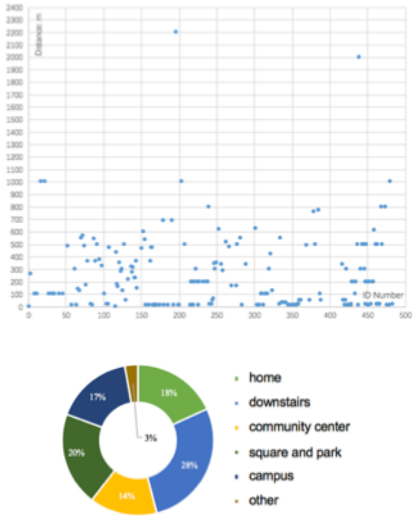

Figure 10. space distribution of social activity sites

5. CONCLUSION

Taking the Chengxianjie Community as a case study, this research was accomplished to investigate the social and spatial condition for the implementation of mutual-support pension in old urban communities in China. The specific mutual-support behaviour of daily-care and spiritual-comfort with the corresponding space supporting the occurrence of the behaviours, was studied through a 200-households interview and questionnaire.

Main findings are as followings:

1. **mutual-support behaviours.** As for daily-care behaviours, the participation degree is relative low under present condition, with one third of the respondents holding positive reply. However, the willingness of participation is considerable high (74%). Among all the categories, meal support is the most welcomed one, while emergency support is also worth noting. As for spiritual-comfort behaviours, most of the older people prefer to interact with others through leisure activity, while the proportion of culture and health activity is relatively low.
2. **mutual-support objects.** As for daily-care support, the service at present is mostly provided among relatives. Few of the interviewees get support from the other social relations. While the rising proportion of neighbours in preference reveals that the elderly hope their neighbours could share part of the care service from their relatives. As for spiritual-comfort support, the objects are comparatively varied. However, neighbours and friends play a much more dominant role in their social interaction than relatives.
3. **supportive spatial condition.** Under current situation, the geographical distance between the elderly and their supportive relation is generally far. Over half of the respondents have supportive relations living out of the community, with an average distance of 6 kilometres, which could not ensure the timely and consistent care service. Besides, considering the high demand of meal support and elderlies' current living space, the regeneration is needed for the kitchen and dining space. As for spiritual-comfort, no matter of the objects or of the activity sites, the distance is suitable. Considering that downstairs and street corners are the most preferred interaction site for elderlies, more attention should be paid on these informal activity space in old urban communities.

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WHY CAN'T WE LIVE TOGETHER? STOCKHOLM – VIENNA'S LARGE COURTYARD BLOCKS

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INTRODUCTION

The aim of this paper is to look back on some valuable accomplishments of metropolitan housing districts built at the beginning of the 20th century in Stockholm (1916-1930) and Vienna (1919-1933). Far from revising the narratives of modern history, those first attempts demonstrate how housing turned into a core-concern from that time, unlike the historians take as a starting point all those examples employing radical and functionalist models. The apt motto "from the block to the bar"[1] marked out this transition. On the occasion of the *IFHTP - International Federation for Housing and Town Planning* in Vienna (1926) and later the first *CIAM - Congrès international d'architecture moderne* (1928) in Switzerland, there emerged a worldwide effort of theory and policy to respond to a serious housing shortage. Two contrasting urban and typological models animated the debate: the large courtyard block and the north-south oriented bars. Nevertheless, leading avant-garde figures mostly shifted their attention away from the densely built-up block of the 19th century city in favour of green settlements and housing estates.

The goal of this contribution is hence to examine in greater detail the large courtyard block through two case studies in Stockholm and Vienna. This type of building was defined by Walter Gropius and Ernst May as a mere intermediate step in the evolution[2], but in actual fact it presented remarkable architectural qualities of morphology and spatial sequence. The large courtyard block was a convincing achievement in the process of reforming the urban perimeter block and it was a dominant and long-lasting model in some European cities. Such modern housing policies significantly influenced the history and structure of cities, as may be seen in today's Stockholm and Vienna urban layout (Figure 1).

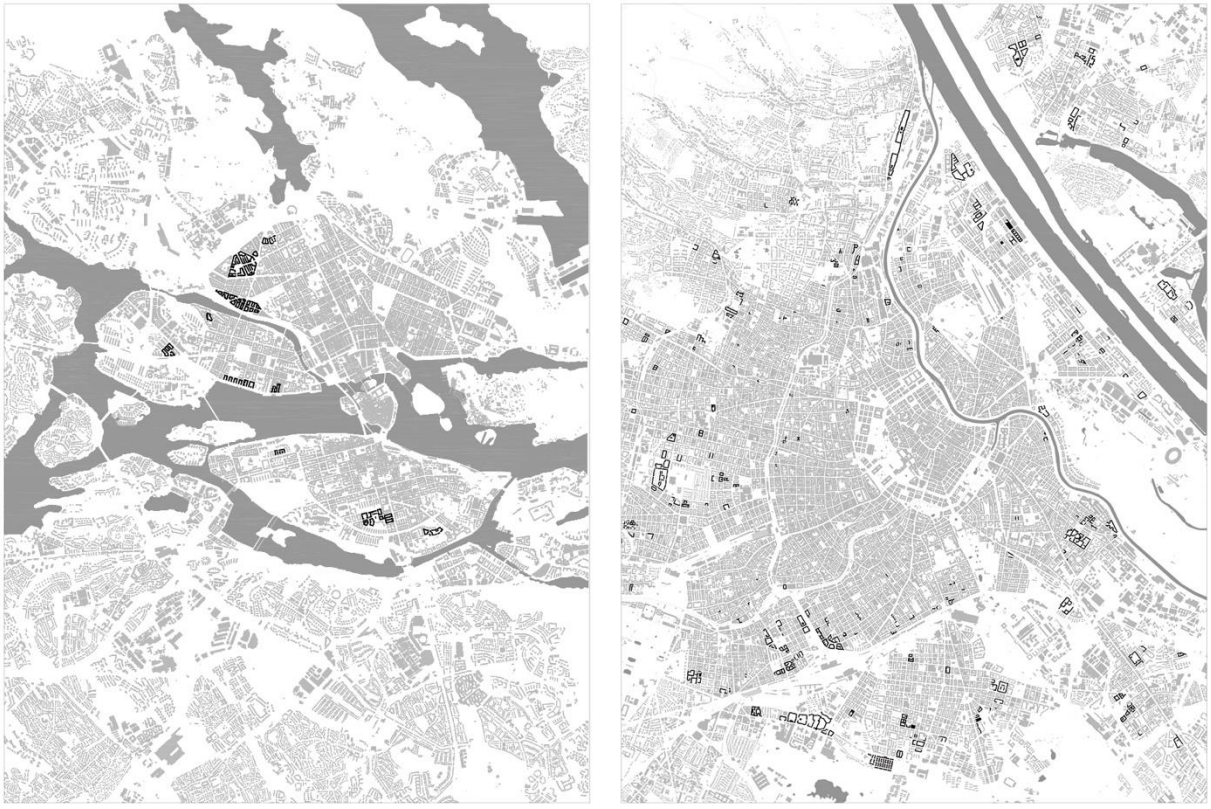

Figure 1. Stockholm and Vienna: urban housing districts in the interwar period

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Housing started to become a public utility, part of a wider and multifaceted social vision. At the turn of the 20th, the response to accelerated metropolitan growth, an acute housing shortage[3] and increased building costs came first in the form of continuous fabrics of high density multi-story or provisional barrack quarters in the city outskirts[4]. Later, a favourable political and cultural milieu in both cities paved the way for approval of land policies and strategic urban plans allocating copious dwelling complexes equipped with improved sanitary conditions and many more facilities[5]. The attention and the responsibility of planners, architects, cooperatives, and politicians focused on "the families (that) are the foundation upon which the society is built"[6] and on "large masses of population"[7]. In Sweden town planners of the municipality liaised with housing cooperatives in conducting these programmes, whereas in Vienna the municipality was alone responsible[8].

In comparing the case studies – *Humleboet* in Stockholm and *Fuchsenfeldhof* in Vienna (Figure 2) – one will recognize some formal and spatial analogies behind the attempt to reform the layout of the city and the conditions of living together. These large courtyards[9], carefully designed as a fine balance between green and paved areas, formed an appropriate living space for the community. The analysis is here carried out from original photos and re-drawings of plans done by the authors[10]. Curiously, the two projects here investigated are also linked by an article published in the Swedish magazine *Vår bostad*[11], dealing with the great Viennese effort to increase housings, and in particular with the *Fuchsenfeldhof*.

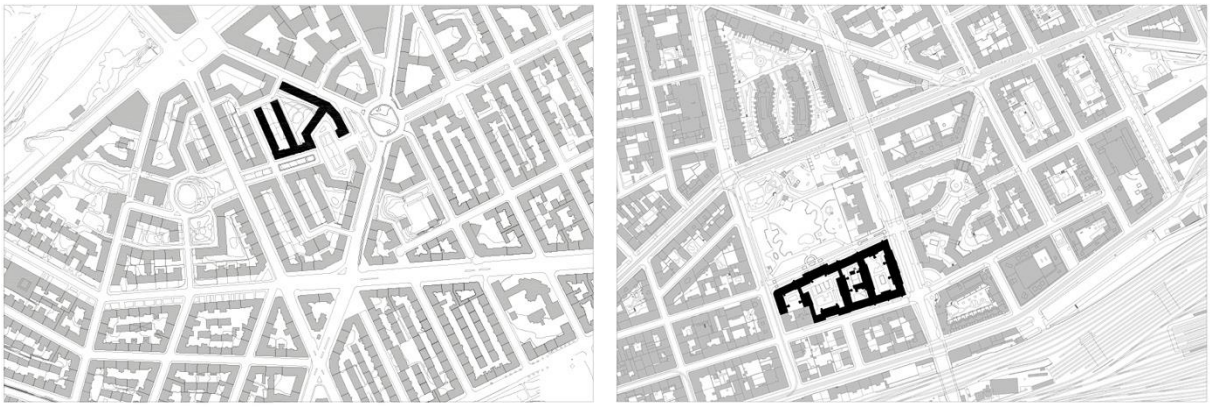

Figure 2. Humleboet and Fuchsenfeldhof in the urban fabric

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STOCKHOLM

Humleboet belongs to a wider housing complex called *Röda Bergen* (Red Mountains). It is an extensive hilly area in the north-west part of the unbuilt outskirts. The peculiar features of the area interrupted the orthogonal east-west oriented grid-plan (*Lindhagenplanen*, 1866)[12] causing radical changes to the pattern of streets and building lots.

The layout of today's site-plan does not entirely correspond with the first urban plan (1907-1909) drew up by Per Olof Hallman[13]. He was the first to introduce Raymond Unwin and Camillo Sitte's theories in Sweden, planners with whom he also had a close relation. Hallman tackled the irregular lie of the land by designing large partially opened courtyard blocks and buildings for the community (e.g. kindergarten, church and school). The picturesque result was a peculiar conflation of the two planning sources of reference previously mentioned, with which presents some points in common. Before the World War I an extensive portion of the South blocks, particularly those buildings facing onto the wide alley, were built. After the war, the urban plan was slightly revised by Sven Wallander and Sigurd Lewerentz who stressed symmetry and regularity more than before. However, the separation between traffic-bearing roads and residential streets remained. The merging of two topographically different areas – the two halves of the hexagon – by means of two main orthogonal axes was kept as well: the regular straight North-South alley was somewhat enlarged and the East-West axis presented some changes in its irregular widenings and narrowings, affecting the sequence of collective spaces.

What radically changed was the dwelling type employed: they substituted semi-detached and single-family houses, with multi-storey mass-buildings, whose ground floors were frequently used as shop, atelier, or common utilities. Wallander and Lewerentz captured the real needs of the Swedish population, seeking functional solutions for allocating families, especially elderly and low-income people. *Röda Bergen* presents an irregular hexagon shape formed by eleven large courtyard blocks. *Humleboet* (Figure 2) together with the partial symmetrical facing block is situated in the Eastern entry side of the district along one the two main street axes[14]. It consists of seven blocks of different shapes and sizes due to the local cadastral system, which actually even regulated the names of town lots. In 1924-1927 five architects, of whom Wallander was the leading figure in the *HSB* cooperative[15], designed *Humleboet*[16].

The layout of *Röda Bergen* comprises a series of interconnected spaces largely consisting of partially open courtyard blocks, stairways and right-angled or curving streets. Apart from the two large ones in

the north, the remaining courtyards are usually not completely enclosed by building blocks, but open to the street and the park. One should note that there were courtyards shared by inhabitants of all the quarter and others exclusively accessible to people living in the blocks facing the courtyard. All these design choices reveal a decisive improvement in the spatial and collective qualities of the large courtyard block. On the one hand, one clearly feels Sitte's ambition for the «city as unitary expression of the collective identity»[17] where artistic and civic needs «do necessarily not run contrary to the dictates of modern living»[18]. On the other hand, the irregularities are actively exploited, which meant following the lie of the land with its ever-changing prospects. The Swedish hybridation of residential spatial features, such as "closes", "cul-de-sacs" and "quadrangles" which Unwin carefully illustrated in *Town Planning in Practice* (1909) made this possible. As he commented, the state of cities at that time showed that any sort of «amenities of life»[19] was neglected. Beyond improving sanitary conditions, «there is also needed the vivifying touch of art, which would give completeness and increase their value tenfold; there is needed just that imaginative treatment which could transform the whole»[20].

Like *Röda Bergen*'s other large courtyard blocks, *Humleboet* (Figure 3) is a combination of modest-scale buildings and extensive area of parkland and countryside[21]. In the first layout, Hallman gave a particular care in distinguishing private greeneries from collective ones. Later, he actively participated in the debate about increasing green areas into the courtyards and reducing the separation walls, feature of the high-dense perimeter blocks. Conceiving the neighbourhood as a whole in terms of land laws and design principles also permitted the interactions between the inhabitants who started to appreciate living together[22].

The revised urban plan stipulated a medium density corresponding to 3-4 storey apartment buildings. Most of *Humleboet*'s blocks respect this rule, except for the buildings along the Eastern perimeter, which are 7-storeys. The five architects built 389 dwelling units: most of them are 1 room plus kitchen/kitchenette and toilette; in the cases where shower and bathroom were not included in the apartment, they were in the basement as a communal utility.

The case-study is characterized by three green courtyards differing in size, geometry and usage[23]. On the east side towards the roundabout, the head of *Humleboet* has a rectangular green area in common with the facing block. Initially, the centre of this area was conceived as a small kindergarten, but this was never built. This function has been kept to the present: it is a planted area equipped with facilities for a playground area. Strolling down the two-lane planted alley of the *cul-de-sac* one passes the ground-floor archway-passage – accessible to vehicles and pedestrians –which divides the T-shape block to the U-shape ones. The one-way street that runs along one of the two parallel bars is delimited, on the right, by an irregular trapezoidal plot which follows the slope of the terrain (Figure 4).

The 1928 picture shows how the topography of site was cleverly used in the design process. Running along the buildings there is still a 10-metre strip of private gardens with drying racks, benches, flowerpots and pergolas. What does not exist anymore is gardening sheds and tiny vegetable gardens (Figure 5). There is still the same elliptical playground area, rather more fully equipped than the 1920s (Figure 6). Even though the size of open area is generous, the overall impression is intimacy provided by the protective ring of 3-4 storey blocks. Lastly, the rectangular courtyard between two parallel blocks – actually for private use – was designed by the Swedish landscape architect Ester Claesson[24]. It was conceived as a series of green spaces: some gave an impression of cosiness and harmony; others were for vegetable gardens. The original layout has been modified, but the purpose is still for socializing and cultivating.

Figure 3. Humleboet, ground floor plan

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Figure 4. Humleboet, trapezoidal courtyard: collective spaces and private gardens, 1928

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Figure 5. Humleboet, path and street dialogue with the collective sloping area

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Figure 6. Humleboet, beyond the fence: the elliptic playground area

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VIENNA

In 1922-1925, Heinrich Schmid and Hermann Aichinger designed the *Fuchsenfeldhof*[25], which was the first building entirely conceived as a *Hof* according to the city's planning guidelines for communal housing blocks[26]. Although scheduled for 1919, it was the first building to be built with the *Wohnbausteuer* of the first municipal program in 1923[27]. It can therefore be considered one of the first interventions of Viennese housing policy[28].

The building site is in Meidling[29], which became industrialized throughout the 19th century. Brickworks, textile and also metalwork factories were located there, leading to speculative building of tenement blocks. Thus, the urban plot of *Fuchsenfeldhof* had been partially built upon before the city acquired it in 1922[30]. The complex was erected in two phases. The first began in 1922 and included 212 apartments, several shops and workshops, the city's cooperative stores, a child-care facility, a central steam-powered laundry and communal baths. These functions were grouped in a 6-storey building around one courtyard, which occupied only the eastern side of the trapezoidal city block. In the second phase (1923-1924), it grew to encompass the rest of the entire city block, integrating two pre-war apartment buildings in the southwest corner. Grouped around three courtyards, the project added 267 apartments, four shops, two workshops, an instructional workshop, a kindergarten, a reading room, additional laundry and bathing facilities, playgrounds, a water pool and a new monumental entrance to the largest of the new courtyards. Two architects designed 481 apartments in the 6 and 7-storey buildings around a sequence of four collective courtyards.

The block shows a rational layout in its spatial organization and relationship with the urban fabric (Figure 2). The building considers the perimeter streets as limits. Tafuri stated *Fuchsenfeldhof* conveys the stiffness of the urban form, because it is not able to modify the rigid plot shape[31]. This critical observation can be also interpreted differently: the rigidity of the urban form shows the ability of the block type to build new dwellings into the urban fabric without modifying the pre-existing general plan[32]. This feature allows the *Höfe* to interweave intricately with the historic city. It is no coincidence that Werner Hegemann appreciated the Viennese complexes, stating they were «typically urban in character [...]. Note, however, the pleasing variety of detail in each group, and the ingenious way in which the plans of the blocks are related to existing streets and open spaces»[33]. In particular, the four enclosed courtyards of the *Fuchsenfeldhof* present valuable design solutions. Each is characterized by a different shape and volume variations. The relationship between the building and the size of the courtyard space is the special feature of the architects' handling of the collective programme.

The model of the large courtyard block has a long tradition in Vienna's history[34], and achieved a precise theoretical frame in two masters of Viennese architecture and town planning from the late 19th century: Camillo Sitte and Otto Wagner. Sitte theorised the large garden court in *Greenery within the City* (1900)[35]: «The *sanitary greenery* should not be found amidst the dust and noise of the streets, but rather in the sheltered interior of large blocks of buildings, surrounded on all sides»[36]. In line with good examples of historic cities and their suburbs, the courtyards contain recreational greenery that could be used as playgrounds, sports grounds and even markets. «What Sitte proposed here was nothing less than opening the formerly private ground of the urban block to the public – a strategy which later became important for the large *Höfe* of Red Vienna»[37]. In his lecture on *The Metropolis* at the Urban Design Conference in New York (1910), Otto Wagner presented the apartment blocks[38] as the only appropriate housing typology for modern life, as opposed to the suburban detached houses: «The longed-for detached house in the still more longed-for garden city can never satisfy the popular need, since as a result of the pressure of economy in living expenses, of the increase and decrease in the size of families, of change of occupation and position in life, there must be constant shifting and

change in the desires of the masses. The needs which arise from such changing conditions can be satisfied only by rented apartment dwellings, and never by individual houses»[39]. This statement is important, considering that architects of some of the largest and most significant Red Vienna buildings were students at the Wagner Academy [40]. In their turn, Schmid and Aichinger, the architects of the *Fuchsenfeldhof*, belonged to the so-called *Wagner Schule* [41]. On the one hand, Sitte stresses the courtyard's spatial quality, on the other, Wagner focuses on the typology and urban features of the courtyard. Both principles coherently came together in the socialist housing programme[42]: the *Hof* typology blends urban density with the advantages of multifunctional garden courtyards.

The ground floor of *Fuchsenfeldhof* features a fully integrated combination of garden areas, public entryways, access to collective facilities, circulation paths and apartments (Figure 7). The block emerges as an interaction between public, collective and private spaces, accommodating many facilities and functions. The building «is in fact both public and private, domestic and civic, its courtyard spaces are both open to the city and enclosed within its walls»[43]. The sequence of four linked courtyards enhanced the size and the communal amenities (Figure 10); it also improved the urban character through two monumental gateways connecting the street to the internal public space. In this the *Fuchsenfeldhof* proved really innovative. It introduced a new spatial and functional quality into the urban district by incorporating public elements into the residential fabric. Despite using the well-established *Hof* typology, it was both larger and less densely built than the traditional and speculative Viennese apartment blocks. The spatial dimensions and the facilities in its courtyards made a key contribution to building practice in Vienna, demonstrating that Vienna's large courtyard blocks could embody Sitte and Wagner's urban theories and the social vision of "collective living", as stated in the housing programme. In recent years, *Fuchsenfeldhof* has been renovated adapting easily to contemporary living requirements. Most of facilities and common equipment in the courtyard have been preserved. Although the water pool (Figure 8) is nowadays used as a playground, the transformed elements have not altered the collective character after all (Figure 9).

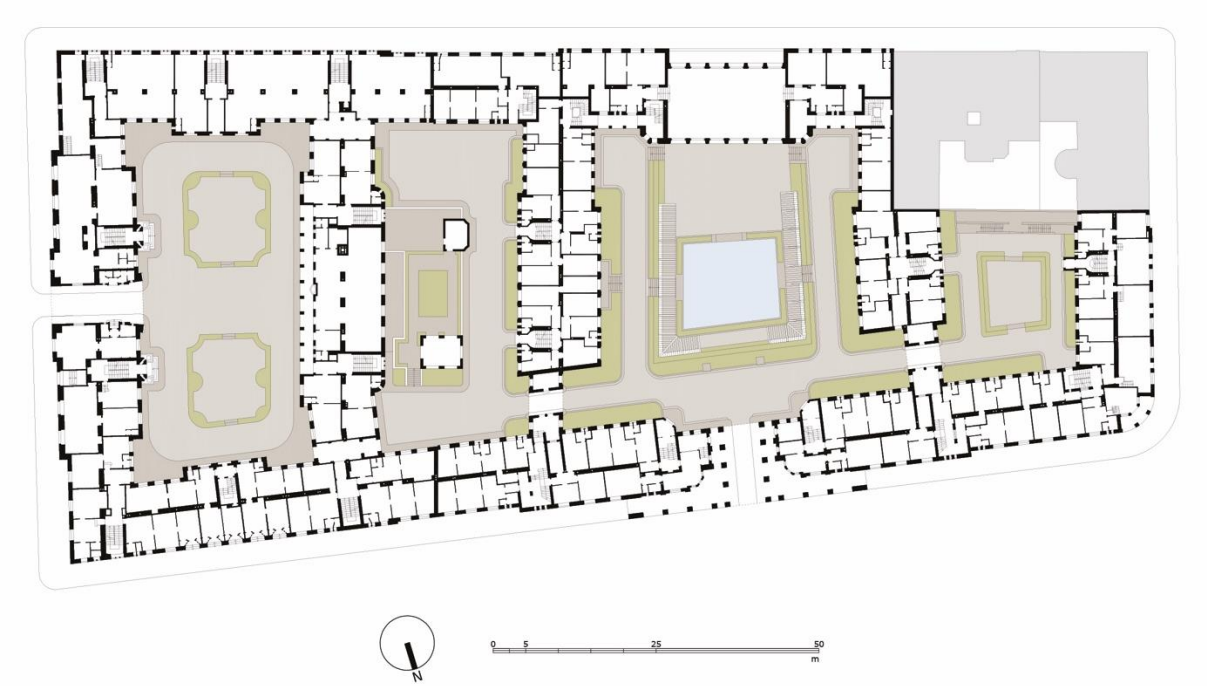

Figure 7. Fuchsenfeldhof, ground floor plan

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Figure 8. Fuchsenfeldhof, swimming pool: the unexpected amenity,1930

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Figure 9. Fuchsenfeldhof, collective space of the main courtyard

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Figure 10. Fuchsenfeldhof, sequence of arched passages

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CONCLUSION

Investigating *Humleboet* and *Fuchsenfeldhof* has shown how they still offer key suggestions for conceiving the collective space of the courtyard. Their legacy is all the more important nowadays since housing is such a central topic. They can be considered as models – if properly adapted – for contemporary architectural practice. The authors' re-drawings highlight the peculiar features of the outdoor spaces, and these are also summarised by the chart data (Table 1).

Table 1. Comparative data between two case studies

HUMLEBOET Stockholm		**FUCHSENFELDHOF** Vienna
389	Number of dwellings	481
11,084 m^2	Total surface	10,680 m^2
2,612 m^2	Greenery areas	1,008 m^2
1,089 m^2	Paved areas	3,371 m^2
0.54 (54%)	Land occupancy rate	0.59 (59%)
2.43	Site residential density	3.22

Although the two case-studies describe a similar plot surface, the density is significantly lower in the *Humleboet* due to the greater quantity of storeys in the *Fuchsenfeldhof*. Differences also concern the building features and the architectural layout of the courtyards as illustrated in the pictures. The percentage of green-paved areas is also interesting: in Stockholm, natural features are prominent, the unusual topography becoming an integral part of the project, whereas in Vienna the layout of the outdoor spaces is the result of careful design control. The comparison between old and recent pictures shows how in these courtyards common ground floor facilities and the outdoor equipment are still available for daily use[44].

Although they were designed almost one hundred years ago, they still lump together many individuals and families low on the social ladder into a large block with a shared courtyard, achieving a novel architectural urban unit. Secchi[45] sees such European examples of large courtyard blocks a common ground in the search for adequate forms of living together and the expression of democratic ideals. Today, the Viennese dwellings have been allocated to elderly people, members of the poorer class and immigrants to all of whom the municipality still guarantees a low rent[46]. In Stockholm, the inhabitant's backgrounds vary, as in the beginning: elderly people, lower and medium class families, single workers and single parents share those blocks. What is more, the skilful design of the two developments has prevented the buildings from deterioration, and, on a larger scale, from the urban decline sadly affecting so many neighbourhoods of big European cities.

To some extent, the song *Why Can't We Live Together?* written by Timmy Thomas[47] in 1973 and designed to inspire a return to "living together", is here matched by architectural spaces conceived with the same community goal in mind.

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[1] See: Gropius, Walter. "Die Wohnformen: Flach-, Mittel- oder Hochbau?". *Das Neue Berlin*, 4 (1929), 74-80. May, Ernst. "Fünf Jahre Wohnungsbautätigkeit in Frankfurt am Main". *Das Neue Frankfurt*, 2-3, Febr-März (1930), 21-55.

[2] The two German architects summarized the typological evolution expressed by the motto previously cited (*vom Block zur Zeile*) in the well-known schemes. Gropius presented three schemes starting from a condensed block, later a regular large courtyard block and a bar settlement. While, May added an additional step to the three diagrams.
The same was also done by a group of young Swedish architects in the manifesto *acceptera* (1931).

[3] From 1850 to 1930 Stockholm's population increased from 93,000 to 502,200 inhabitants, while Vienna shows a growth from 551,300 to 1,935,881 inhabitants. As the data show, Vienna is 4 times larger than the Swedish capital.

[4] They were called *Hyrkasern* in Swedish and *Mietkasernen* in German. These were speculative buildings in the sense that till the First World War private construction was struck down and construction costs rose sharply due to material shortages and rationing. The flats were overcrowded and with limited sunlight due to considerably reduced size of the courtyards. Sanitary conditions were terrible: no bathrooms, no water and lighting and no facilities. The phenomenon of wooden barrack quarters or provisional shelters (*nödbostad*) was more widespread in Sweden.

[5] First of all, Sweden needed a Building Decree (*Byggnadsstadgan*, 1874) and a Town Planning Act (*Stadsplanelagen*, 1909) to allow the municipality to purchase land from the Royal estates. From 1914 onwards, local communities established the *Bostadskommissionen* (Housing commission) and they also started to provide government subsidises for housing developments. The Tenant societies became vital organizations, as shown by the first cooperative (*Stockholms Kooperativa Bostadsförening*) established in 1916, but the driving market force was the *HSB - Hyresgästernas sparkasse - och byggnadsförening* (Savings and Construction Association of the Tenants) founded in 1923. Both of them are still managing the housing sector together with many others. Sanitary and design guidelines were finally regulated by the booklet *Praktiska och hygieniska bostäder* (1921).

In Vienna, the Building Code (*Bauordnung*, 1883) regulated the dwelling standards until 1930. Between 1922-1928 Vienna municipality succeeded in purchasing an extensive quantity of land (7,920 hectares) destined for housing purposes, approximately one-quarter of the total area of the city. The Federal Rent Control Act (*Mieterschutzgesetz*, 1922) expropriated all the landlord's income from rents and destroyed private building speculation. The Housing Construction Tax (*Wohnbausteuer,* 1923) created financial aid for two five-year building programmes (1923 and 1927).

[6] See Wallander, Sven. "Våra arbetsuppgifter", *Vår bostad*, 1 (November, 1-3), 1924. To quote the beginning of the article published in the first issue: "If a family needs to live their lives in a dwelling, which does not offer the minimum of space and well-being, which is the prerequisite for human dignity, yes, then it is at risk".

[7] See Gemeinde Wien (1929). Vienna municipality promoted its two housing programmes through booklets. In the first one it stated: "There are no breaks: therefore, the municipality must continue its building initiatives! After the second building program will be a third and a quarter ones [...]. The construction of healthy and affordable dwellings for large masses of populations has become a durable task of the municipality. It will not fail to fulfil this great duty".

[8] About the quantity of dwelling units, Vienna municipality built 58,353 flats in the timespan 1923-1933. See Hautmann and Hautmann (1980). Regards to Stockholm the data are somewhat less precise in the sense that most case surveys were conducted on a national basis. For example, between 1916 and 1929, 129,800 housing units were built in 280 Swedish towns (See Bauer (1934)), of which approximately 70,452 in Stockholm and its suburbs (See USK - Stockholms stad, 1989). The data include all new buildings: garden settlements of small cottages in the suburban areas – result of the *egnahem* policy – and urban residential blocks.
The Housing census (*Allmänna bostadsräkningen år 1933*, https://www.scb.se/Grupp/Hitta_statistik/Historisk_statistik/_Dokument/SOS/Bostadsrakningen_1933.pdf) illustrated a scenario of 750,000 dwelling units, of which those new residential units built in 1924-1933 constituted the 22% of the global amount investigated. The cooperatives built 17300 units in Stockholm in the period 1924 - 1933 (See Silk (1948)), particularly the HSB built approximately 4,960 units.

[9] Curiously, from a language standpoint there are two slightly different words to describe the typology of the present study. In Swedish, the recent definition coined by the historian Bjorn Linn, *Storgårdskvarter*, corresponds exactly to the English one, while in German *Hof* stands only for the inner space, that is the courtyard.

[10] The re-drawings are based on a careful analysis of original items which the authors of the present paper consulted in archives of Stockholm (*Arkitektur –ochdesigncentrum*, *Stadsbyggnadsexpeditionen* and Stadsarkivet) and Vienna (*Baupolizei MA37-West*)

[11] See Grimlund, Otto. "Det nya Wien. Ett storartat kommunalt nybyggnadsarbete för lindrandet av bostadsnöden". *Vår bostad*, 4 (November), 1927, 12-14.
Here there are some key passages translated by paper's author: «When travelling the continent in search of cooperative buildings and new types of dwelling, one cannot go wrong in focusing on the city of Vienna. In actual fact, housing cooperatives did not exist there, but favourable policies provided the circumstances for the municipality to intervene vigorously and effectively, so that the formation of special organizations proved superfluous. In addition, Austria experienced a dramatic economic crisis that made it difficult for any private or cooperative agencies to intervene and, consequently, the municipality decided it was vital to tackle the housing shortage. What has been achieved in the last 5-6 years in this respect is extremely impressive and shows the municipal authorities in this area acted vigorously and promptly, wisely and socially, in order to create something new, something of value. During the next 5-year period, 25,000 apartments are planned to be run up. These residential buildings, which have attracted visitors from all over the civilized world, have been designed by the most distinguished architects, built of solid materials and located in various parts of the city. […] Not 15% as was done before, but as much as 50% of the plot is reserved for courtyards. Inside these large blocks situated in the neighbourhood we now find beautiful, enclosed lawns, playgrounds for children and ponds on which they can even skate in winter. Airy gardening areas for the adults are missing, though. Everything is artistically designed, adorned with beautiful stone figures, and sometimes even a fountain in the middle. […] Although the homes are small (most of the apartments have only 2- 3 rooms), the Viennese people are pleased with that, being used to much less. But these apartments do enjoy direct sunlight and good ventilation. […] Construction makes use of all modern technical aids. The management of the municipal houses is centralized in the city's rental department and special offices in each housing complex maintain closer contact with the tenants […] Vienna is fortunate to have had such excellent municipal leadership over the past few years. […] Now the Danube metropolis is a good and educational example for other cities».

[12] At the end of 19th century, Stockholm called for new town plans shaping its appearance of a real metropolis. The *Lindhagenplanen* was clearly inspired by Hausmann's monumental renovation plan of Paris, but it was not completly realized because it did not utterly match with the morphology of the city.

[13] Hallman was literally a pioneer in Swedish town planning theory and practice. He attended a town planning course in Berlin. He wrote and lectured extensively, and was the first professor of town planning at the Royal Institute of Stockholm (1897-1934). Together with Albert Lilienberg, he took part in the first Town Planning Conferences and, later on, after the First World War, they arranged the first *IFHTP* exhibition and seminar in Göteborg (1923). Hallman was also expert member of the Stockholm town planning committee, of which during 1922-1927 he became director.

[14] They are the N-S Torsgatan and the Rödabergsgatan E-W.

[15] Wallander built three big blocks, while G. Laurelius S. Kjellberg, P. Hedqvist and T. Kjellgren designed the other four. The *HSB* architects' office was responsible for a large number of dwellings in the *Röda Bergen*. In the specific case of *Humleboet* only two blocks do not belong to HSB and they are in the East wing of the regular and stretchered courtyard.
[16] Most of the *Röda Bergen* lot names come from the Old Norse mythology, but also from surrounding nature as the case of *Humleboet* which literally means "nest of bumblebees".
[17] Porfyriou (1990, p.103).
[18] Collins (1986, p. 92). The present book contains the English translation of the Sitte's masterpiece entitled *Der Städtebau nach seinen künstlerischen Grundsätzen* (1889).
[19] Unwin (1909, p. 4).
[20] Ibidem.
[21] Parallel to Hallmann's great effort in renovating town planning ideals, one should also mention the prominent role of some members of the Social Democrat party sitting on Stockholm City Council, like the social reformer and women's rights activist Anna Lindhagen. She was a driving force in introducing "allotment gardens" and stressing how important carefully designed and equipped gardens are in urban housing developments. Most of her suggestions and proposals were published in *Koloniträdgårdar och planterade gårdar* (1916).
[22] Lindhagen (1916, pp. 52-53). Her analysis and design suggestions provided in the last chapter ("Planterade gårdar"; trans. "Planted courtyard") were also supported by a Hallman speech dated 1916. The practise of building walls in the high-dense courtyards was the result of the speculative construction of tenement buildings.
[23] Access to both of the parallel blocks is through a rectangular green approach, whereas in all the other blocks the principal entrance is on the main street.
[24] She worked actively with the German architect Joseph Maria Olbrich at the artists' colony in Darmstadt, where she was the only woman at his office (1905-1907). She also did an internship at Paul Schultze-Naumburg's studio. Once she came back to Stockholm, she took part in many projects and competitions, collaborating for example with the English magazine *The Studio* and the German *Deutsche Kunst und Dekoration*. For a better understanding about the Swedish landscape architect, see Nolin, Catharina (2009).
[25] See Wiener Magistrat (1924).
[26] For how the English-speaking world received the policies and guidelines of the Viennese municipality, see Hardy (1934).
[27] The first drawings for the first phase of the *Fuchsenfeldhof* project, held at Baupolizei MA37-West, date back to 1919. The start to building was conditioned by acquisition of land and financing. For more information about the economic and administrative system, see the text of the first housing program Honey (1923). A detailed reconstruction of all historical and political events is provided by Gulick (1948).
[28] Usually, the *Metzleinstalerhof* is considered the first *Hof* of the Viennese experience. The courtyard block consists of a part designed by Robert Kalesa in 1919-1920 and a second one in 1923-1924 by Hubert Gessner. However, the *Metzleinstalerhof* was not yet included in the 1923 housing program. See *Metzleinstalerhof* (1924).
[29] It is one of Vienna's suburban districts (12th *Bezirk*).
[30] Blau (1999).
[31] Tafuri (1980).
[32] The *Höfe* are predominantly located in workers' areas where the urban fabric showed the signs of 19th century housing speculation. Their construction was based on the general urban plan of 1893, without any modifications to the urban structure as shown by Battisti (1975). For more information about the urban intervention tools, see Blau (1999).
[33] Hegemann (1938, p. 93).
[34] See Bobek and Lichtenberger (1986).
[35] This article appeared in 1900 in *Der Lotse: Hamburgische Wochenschrift für deutsche Kultur*. It was printed as an appendix in the German edition of 1909 of *City Planning according to Artistic Principles* (*Der Städtebau nach seinen künstlerischen Grundsätzen*). The English translation of the article is available in Collins and Collins (1986).
[36] Collins and Collins (1986, p. 319).
[37] Sonne (2009, p. 77).
[38] [38] In 1911 Otto Wagner also showed his urban vision of Vienna in *Die Grossstadt*. The site plan and aerial perspective for the XXII Vienna Municipal District project presented uniform residential blocks interspersed with monumental public buildings arranged along a central axis of green spaces.
[39] Wagner (1912, p. 498).
[40] Some famous architects, such as Josef Hoffmann, Josef Plečnik and Max Fabiani, also attended the Otto Wagner Academy. See Pozzetto (1979).
[41] See Wenzl-Bachmayer (2010).
[42] «In the communal buildings, at least 50% of the surface of the courtyard (*Hof*) is generally not built. [...] Careful attention is paid to making large courtyards in a way that they can provide ornamental gardens and that the sun can reach all the rooms as much as possible. The courtyard garden of the communal buildings guarantees lighting and ventilation of the houses, as well as, no less importantly, it offers playgrounds for children and rest areas for people» Gemeinde Wien (1929, p. 44).
[43] Blau (1999, p. 238).

[44] In the recent years, both the districts have been partially renovated proving easiness to adapt to contemporary requirements of sustainability. For example, in Stockholm the works consisted in replacing with energy-efficient windows whilst keeping the same framework and performing roof renovations by adding dormers similar to those in the original. In Vienna, they added an exterior insulation system which does not alter the original idiom or character of the façades or affect the replacement of windows. In addition, the dwellings designed at that time show great flexibility and a capacity for adapting to current living standards, which generally amounted to merging two or three of them together by a few operations.
[45] See Secchi (2013).
[46] About the contemporary housing policies in Vienna, see Stadt Wien-Wiener Wohnen (2016).
[47] https://www.youtube.com/watch?v=cFU-FJzPE80

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CONNECTING THE DOTS: CITIES, COMMUNITIES AND HOMES FOR AN AGEING SOCIETY

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INTRODUCTION

Population ageing is one of the most profound social changes being experienced in the 21st century. It is an international phenomenon, though more advanced and rapid in some countries. Japan leads the world with 33.1% of its population 60+ in 2015, estimated to grow to 42.5% by 2050. Italy, the oldest country in Europe at 28.6% in 2015 is expected to reach 40.7% by mid-century. The UK at 23.0% is close to the average for Europe in 2015, and expected to reach 30.7% by mid-century. Australia is a little lower at 20.7% in 2015, projected to increase to 28.3% by 2015[1]. Population ageing is also an urban issue, as cities are where most older people will live in future.

Population ageing has major social and economic implications arising from increasing dependency ratios and reducing tax revenue in the face of rising health and aged care costs. Governments have responded in various ways, including increasing pension age, compulsory superannuation, greater targeting of age related benefits, and encouraging ageing-in-place to reduce transfers to more expensive institutional aged-care. Ageing-in-place is seen as a win-win solution, by both governments because of savings in aged care costs and older people who prefer to remain living in their own homes for as long as possible[2]. However, in Australia, as in many other countries, much of the conventional housing stock is not suitable for ageing-in-place. Neither are many of the neighbourhoods in which they are located, or indeed the wider city infrastructure to facilitate social participation and access to services. In Australia, progress toward more age-friendly homes, neighbourhoods and cities has been slow and reactionary, rather than proactive. This paper will argue that a significant contributing factor is that responsibility is fragmented between different levels of government, departments and agencies and subject to political cycles. It will do this by drawing on the findings of two research projects on ageing, housing and the built environment and discussing policy developments in the domains of home, community and city.

The Research Projects

Two research projects led by the author were funded by the Australian Housing and Urban Research Institute (AHURI). The first Housing, Land and Neighbourhood Use by Older Home Owners[3] involved a national survey of 1604 people 55+ via the most widely circulated Australian seniors' magazine *50 Something*, and 70 in-depth interviews across five states of Australia (NSW, QLD, VIC, SA, WA), jointly funded by the Commonwealth Department of Health and Ageing (DoHA). The second, Downsizing Amongst Older Australians[4] involved a national survey of 2767 respondents who had moved since turning 50 via the *50 Something* magazine, followed by 60 in-depth interviews and policy workshops in three states (NSW, SA, QLD).

HOMES FOR AN AGEING SOCIETY

The most immediate environment for supporting an ageing population is the home. Like many other governments, Australian policy has emphasized ageing-in-place in recent decades to reduce expenditure on institutional care, with an increasing level of care delivered in the home, including dementia care.[5] The private home is therefore becoming more important in accommodating an ageing population. However, the bulk of existing housing stock is not suitable for extended ageing in place, and age-appropriate housing options are limited.

Older people's housing in Australia

Despite recent intensification in urban centres, Australia remains largely a suburban society, particularly so for the older population. While household sizes have been decreasing (due partly to population ageing), dwelling sizes have increased[6]. Allotment sizes have been decreasing to reduce suburban land consumption resulting in bigger two-storey homes on smaller lots, with living areas downstairs and bedrooms upstairs, and hence less appropriate for ageing in place.

At the 2011 Census[7], 71% of Australians 65+ lived in detached suburban dwellings and 83% in dwellings with 3 or more bedrooms despite 84% being in only one or two-person households. Three quarters (76%) were homeowners, predominantly outright owners (67%). Only a very small percentage (5.3% in 2011) lived in retirement villages[8]. The predominant Deferred Management Fee/Loan-Lease model in Australia is not favoured by many older people due to its impact on intergenerational wealth transfer and uncertainties around unexpected maintenance fee increases. Nor is it attractive to many in the baby boomer generation rapidly entering older age. Multi-unit living, is also unattractive to many older people concerned about living at close quarters with neighbours, dealing with owners' associations, and uncertain monthly fee escalation, particularly for those on fixed incomes. As a result, most older Australians remain in private housing in the general community, and this is likely to continue.

Housing utilisation

It is commonly argued by Australian policy makers that older people underutilise their homes, and should downsize to release their homes for family households. This 'mismatch argument'[9] is based on the ratio of permanent residents to number of bedrooms using a modified version of the Canadian National Occupancy Standard[10], adopted as an official measure in Australia. Using that formula, we found that 84% of houses occupied by Australians 55+ would be deemed 'underutilised'. However, amongst our survey respondents (79% of whom lived in separate houses and 85% in dwellings with 3 or more bedrooms), 91% regarded the size of their dwelling as suitable for their household. One quarter needed accommodation for temporary residents (staying at least 20 nights but less than 6 months per-annum) not included in the census count, and used so-called 'spare' bedrooms for other purposes such as guest accommodation (for family and friends) office space, hobbies, exercise equipment and so on – activities important to their health and well-being. Some claimed they needed more space post-retirement as they spent more time at home, and couples needed their own individual space[11].

Moving and Downsizing

The findings questioning widespread underutilisation prompted our following study on downsizing. According to 2011 Census Data[12] we found only 18% of Australians had moved since turning 50 within the previous five years, and from our survey findings estimated that only half (9%) of these downsized into dwellings with fewer bedrooms. Other researchers[13] found that while 30% of people 50+ had considered downsizing, only 10% had done in the same five years. This raises the question of what barriers may prevent the additional 20% from downsizing. According to our research, what downsizing

did occur was mostly for lifestyle improvement or maintenance difficulty reasons, sometimes arising from negative shocks such as death of a partner, relationship breakdown, illness or disability, and only rarely for financial reasons. However, certain barriers to downsizing were identified including: inadequate supply of smaller, affordable, well-located dwellings; financial barriers (including costs of real estate agent and removal fees, stamp duty on new purchases, and pension eligibility risk from equity release); and psychological barriers (including attachment to the home, neighbourhood and community, and the stress of moving and decluttering)[14].

Housing policy

Four of the key issues in housing policy for an ageing population are appropriate housing typology, design, location and finance. In Australia responsibility for policy in these areas is divided between all three levels of government (Federal, State and Local). The Federal Government's interest is mainly in the economic aspects of housing, but also in collaboration with States for building standards via the Building Code of Australia (BCA). Responsibility for housing typology and location is largely the province of State Government planning policies and local government planning controls, with outcomes largely market driven. Recent years have seen a polarization in the market in the larger cities between high-density apartments in urban centres and continuing expansion of low-density housing in outer suburbs, resulting in a 'missing middle' in the market – i.e. medium-density attached housing types. What is currently being built in this sector are primarily two-storey attached 'town-houses', also not suitable for ageing in place. Strategic planning documents have long called for more diversity in housing types to accommodate demographic change, but this has not yielded much diversity to date. Two state governments (NSW and Queensland) have recently taken steps to develop more strategic policy to address the 'missing middle', premised partly on the needs of an ageing population.[15][16]

In terms of age-appropriate design, Australia has had disability access standards since the 1970s, but only mandated for public and commercial buildings. Only in 2010 were very limited requirements for access to residential flat/apartment buildings included in the *Access to Premises – Building Standards* of the *Disability Discrimination Act*[17]. This includes a level building entrance and access to one floor of sole-occupancy units, but no requirements for dwelling interiors. The former federal Labor government initiated voluntary *Liveable Housing Design Guidelines*[18] with four levels of provision (silver, gold and platinum), aiming for 100% adoption in new housing by 2020. Sadly, interim goals toward this have not been achieved, due to industry resistance and lack of political support, fueling the argument for mandating at least silver level in the BCA.

Responsibility for financial support/incentives for moving/downsizing is split between federal and state treasuries. To ameliorate the impact of equity release on pension eligibility, the former Labor Government introduced a pilot scheme to quarantine up to $200,000 of equity release from the assets test for older movers/downsizers[19], which was promptly scrapped by the incoming Liberal/National Government, only to recently establish its own scheme whereby people 65+ can make a non-concessional (post-tax) superannuation contribution up to $300,000 from the proceeds of sale of their principal place of residence of 10 years or more[20]. State Governments have responsibility for property taxes through collection of stamp duty on the purchase of dwellings. Four State/Territory governments have introduced stamp duty concessions (one short lived) for older Australians to address barriers to downsizing, though there is little evidence of their effectiveness.

COMMUNITIES FOR AN AGEING SOCIETY

Ageing in place is not merely about the home, but also about the community in which the dwelling is located. An important aspect of the 'place' of ageing is the local neighbourhood with which older people have many social and emotional ties. It is well established in the gerontological literature that social

participation and a familiar, safe and supportive local community is important to the health and well-being of older people[2122].

Community Participation

Our housing and neighbourhood utilisation research analysed community participation patterns and attitudes of participants. High on reported daily-weekly activities were shopping/banking/retail, (95% of respondents), sport/recreation (79%), religious services (68%), visiting family/friends (64%), volunteering (57%) and community/social clubs (56%). Other less frequent monthly-yearly, yet important, activities included medical/health related appointments (92%), theatre/cultural activities (90%), dining out (58%), and educational courses (50%). Our interviews and observations revealed great variability in the quality of the local public realm. Poor provision or design of appropriate public access and spaces inhibited physical activity and social engagement. Barriers identified by our respondents included: absent/infrequent pedestrian crossings; absent, discontinuous, poorly maintained, overgrown, or poorly-lit pedestrian pathways; inadequate provision or poor design of public parks for access and use of older people; lack of seating, shelter and public toilets in public spaces; and excessive walking distances to public transport. Inadequate provision or poor design of the public domain was typically worse in lower-income outer-suburban areas and some regional towns.[23]

Age-friendly Community Policy

In Australia, policy and delivery of community planning and design is primarily a State and Local Government responsibility. However, the Federal Government has at times taken a broad interest from a national perspective. In 2001, the Howard Government's *National Strategy for an Ageing Australia*[24] included "safe access to services and facilities through good design of public spaces and the built environment" amongst its actions required for public, private and community infrastructure to support older people. A later report of the Prime Minister's Science and Innovation Council[25] highlighted the importance of neighbourhood design to the physical and social activity of older people. In 2004, the Department of Health and Ageing (DoHA) inaugurated the *Local Government Population Ageing Action Plan*[26] in partnership with the Australian Local Government Association (ALGA) which published information and guidelines on age-friendly community planning and design[27], publicised good practice examples, and developed a toolkit for Local Government. The same year DoHA initiated a National Speakers Series[28] to encourage the engagement of professional associations and other peak bodies in the development of national guidelines for health and well-being. DoHA later funded a collaboration between the Planning Institute of Australia, The National Heart Foundation and ALGA to produce the *Healthy Spaces and Places* guidelines[29] to encourage active living including for the ageing population.

The importance of neighbourhood design has also come to the attention of other Federal Government agencies. The Australian Productivity Commission in its 2011 report on aged care noted that "Age friendly housing and neighbourhoods can have a positive effect on the health and quality of life of older Australians" and that "a national approach could assist in spreading best practice"[30]. Their 2015 research paper on *Housing Decisions of Older Australians* noted that "It is also important for the dwelling to be located close to services and facilities, such as medical clinics and public spaces, to allow residents to continue to participate actively in their community"[31]. In 2013, the Human Rights Commission, developed an *Advisory Note on Streetscape, Public Outdoor Areas, Fixtures and Furniture*[32] complimentary to the provisions of the *Access to Premises – Buildings* provisions, possibly a first step towards mandatory standards.

All State/Territory Governments have departments responsible for Ageing. Most have strategic and action plans based on consultation with older people emphasising active and healthy ageing, community

participation and supportive neighbourhood design. Many have partnerships with peak seniors organisations such as COTA, or the Local Government Association and offer small grants for age-friendly community projects.

CITIES FOR AN AGEING SOCIETY

However, the need for an age-friendly built environment extends beyond the home and local neighbourhood to the wider city. Fundamental to an age-friendly city is access to public transport and the commercial, cultural, and recreational opportunities of the city. Access to public transport varies greatly for older people depending on where they live, and how easy it is to negotiate. Our older home owner interviewees identified many barriers associated with public transport including: distance or steep topography to transit nodes; poor provision or quality of service (regularity/reliability); waiting times, queues and crowding; confusing timetables and bus routes; lack of seating and shelter; stair only access to railway stations and busses; and crime and safety concerns at transport nodes. Once again, these problems were more prevalent in suburban areas and regional towns.[33]

Transport infrastructure policy

In Australia, public transport is primarily the responsibility of State Governments, though also funded via Federal Government infrastructure grants. However, accessibility issues also come under the aegis of the Human Rights Commission and the Disability Discrimination Act. Under the Act's *Disability Standards for Accessible Public Transport*[34], full accessibility is being rolled out over a period of 30 years from 2002 to 2032. Targets for compliance by the end of 2017 are generally 90% (80% for busses).

Liveability and Social Inclusion policy

While responsibility for cities lies primarily with state and city goverments, the federal government has a role in city policy. The former Labor Government set up a Major Cities Unit, developed a national urban policy and an urban design protocol focused on the productivity, sustainability and liveability of Australia's 18 major cities. It recognised population ageing as having an important impact on cities and advocated cultivating healthy, cohesive and inclusive communities, without specific reference to age friendly design. The current Liberal-National Government has appointed a Minister for Cities and Digital Transformation, and released a *Smart Cities Plan*[35], the focus being primarily on economic development, digital technology and jobs, and no mention of the ageing population.

Most state governments have developed strategic metropolitan plans for their major cities which focus heavily on densification around a hierarchy of centres and transport nodes, but apart from identifying the need for housing diversity for an ageing population, there is little detail on age-friendly public space or transport.

City governments have, however, recognised the older population as an important and rapidly growing group. The *City of Sydney the Next Generation: Blueprint for Aged Services and Facilities* 2008-2018 strategy[36] focusses on the ageing population including the aim to design, plan and activate the city's urban environment to meet the needs of older people, and assess its achievements against the WHO Global Age-friendly City criteria. The *Melbourne for All People Strategy 2014-17*[37], while taking a more socially inclusive approach does address issues of accessibility, cognitive impairment, safety, life-long learning, intergenerational engagement and consultation in decision making. While 23 Australian cities and municipalities, including the national capital Canberra, have joined the WHO Network of Age Friendly Cities, most are regional cities or individual urban municipalities.

CONNECTING THE DOTS

Despite recognition of the housing, neighbouhood, and urban infrastructure implications of population ageing in Australian Federal and State Government policy documents for 25 years, policy responses have been fragmented, uncoordinated and inconsistent and, hence, achievements have been modest in all three domains. This is partly due to the division of powers relevant to ageing, housing and the built environment between national, state and local government, but also to the siloed nature of government departments, and changing political cycles. As noted by the Productivity Commission with respect to housing options:

> "The policies that affect older Australians' housing decisions are very fragmented, and there is no strategy that recognises the spectrum of choices, and their effects on aged care services. This patchwork of policy makes it difficult for older Australians to transition from one form of housing to another, as their care needs change"[38].

As a result, while the population is continuing to age, little progress is being made to move towards truly age-friendly housing and built environment. Appropriately designed housing options remain limited and, despite the best efforts of some municipalities and one major city to reach WHO Age Friendly City status, many neighbourhoods and cities in Australia still fall short in supporting an ageing population. What is required is a well-resourced, nationally coordinated, whole-of-government, bi-partisan effort, in collaboration with state and local government to connect the dots between homes, communities and cities for an ageing population.

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THE MOOR POOL ESTATE: A VISIONARY EDWARDIAN GARDEN SUBURB FOR BIRMINGHAM

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INTRODUCTION

Tucked away a few miles West of the city centre and a short walk from Harborne High Street is the Moor Pool Estate; one of the country's most special and least known garden suburbs. Built between 1907 and 1912 the development represents an interesting variation on the themes established by George Cadbury on the nearby Bourneville Estate.

Moor Pool, like Bourneville, was the product of the progressive thinking associated with the Liberal Non-Conformist tradition flourishing in Birmingham during the second half of the 19th Century. Many of the key industrialists were keen philanthropists and used their fortunes to transform Birmingham into a place where education, the arts and housing reform could flourish. The Nettlefolds, the "N" in GKN (Guest, Keen and Nettlefold) and the Chamberlains were two such families with a direct involvement in the Moor Pool project.

HARBORNE TENANTS ASSOCIATION

John Sutton Nettlefold (1866-1930) was the first chairman of the Birmingham Housing Committee and commissioned the local architect Fredrick Martin to create proposals for a low-density housing scheme on a 56 acre site centred on the old Moor Pool purchased for £15,000 by Harborne Tenants Ltd.

> *"It is fortunately becoming more and more recognised every day that open spaces are as necessary to the health of a town, as streets are to its traffic. The provision of allotments, as a counter-attraction to the public house, could also be arranged for, if only these things were thought of beforehand. Under our present system, these boons to the self-respecting working-man and his wife and children are never thought of until it is too late to provide them at a price within the means of the ratepayers or the rent-payers of our large towns."*
>
> *John Sutton Nettlefold, Practical Housing, 1908*

Figure 1. John Sutton Nettlefold (1866-1930)
Industrialist, city councilor and pioneer of town planning

The Harborne Tenants Association was to be an experimental and pioneering partnership scheme by which the tenants could eventually progress towards ownership. Original rents for the smaller properties were generously low at between 4s.8d and 11s. per week.
Frederick Martin's father William Martin had been the co-founder of the famous Birmingham practice Chamberlain & Martin responsible for such fine buildings as the School of Art (1881) on Margaret Street. William Martin had also been the City's Public Works architect responsible for at least 40 of the famous "Board Schools". One of Frederick Martin's first important commissions after he joined his father's practice was his terracotta masterpiece known locally as the Telephone Exchange (1896) on Newhall Street (Listed Grade 1).

MASTER PLAN

Martin's master-plan for the Moor Pool Estate was based on a gently curving axis running uphill in a Westerly direction from the Harborne Railway bridge to Lordswood Road (along what became Moor Pool Avenue and Carless Avenue). At the halfway point he proposed a community hall, some shops and the estate offices enclosed within what became "The Circle". The community hall also included a snooker room and a skittle alley overlooking two tennis courts in the centre of The Circle. Other community amenities were to include a bowling green next to the old Moor Pool and plenty of space for allotments to supplement the gardens of the smaller properties.

Figure 2. Typical "Rhubarb and Crumble" on the Moorpool Estate

Off the main axis smaller roads were given "directional" names such as North Gate and East Pathway. Carless Avenue was named after a small wood that bore the name of an old landowning family and High Brow was the name given to the road that rises up from Carless Avenue to join North Gate. Margaret Grove was named after Nettlefold's wife Margaret (nee Chamberlain) who cut the first sod for the estate on 26th October 1907.

Between 1907 and 1912 about 500 houses were built with the first completed for an opening ceremony on 24th May 1908 conducted by the Rt. Hon Henry Vivien MP. The last houses to be completed were the larger houses at the West end of the estate at the top of Carless Avenue.

INCLUSIVITY, MATERIALS AND DIVERSITY

Nettlefold and Martin's vision was for an "inclusive" estate for manual workers and skilled artisans living alongside professionals and prosperous members of the business community. The plan was to include a wide range of houses from smaller two-bedroom terraces through to substantial semi-detached houses with five bedrooms. One of the earliest residents (at 92 Carless Avenue) was the renowned "Arts and Crafts" silversmith, Bernard Cuzner (1877-1956) who was head of Metalwork at the Birmingham School of Art from 1910-1942.

Figure 3. Mature lime trees adorn Carless Avenue and the largest four-bedroom family houses

Martin's designs for the actual houses combine some of the features of the Arts and Crafts Movement with those of Port Sunlight and Bourneville. The basic themes of the estate are the regular use of front-facing gables over the main bedrooms and the extensive use of cream painted stucco providing a contrast with the ubiquitous red brick. The "two tone" houses with the stucco upper storeys are particularly attractive. Other effective architectural devices include the imaginative use of brick arches and the decision to use opening window casements based on six-pane side-hinged lights and two-pane top-hinged lights.

Figure 4. Diversity by design; no two houses were to be the same

Having established an architectural language, Martin managed to generate a very wide variety of houses throughout the estate. Indeed it is very difficult to find any two that are identical. Ingenious variation of plan-form combined with the imaginative and careful positioning of each building is handled very effectively. In accordance with Garden City principles the landscaping of the whole estate is integral with the house designs. All the roads are tree-lined with grass verges and Carless Avenue opens out to include two semi-circled open spaces known as "The Spinney" with the houses set back to form two crescents. The Estate Offices at The Circle became the administrative hub where rents were paid and provided a base for a small direct workforce engaged in routine maintenance.

LISTED BUILDINGS AND CONSERVATION AREA STATUS

By the 1960s quite a number of the houses were owned independently and changed hands on the open market. The estate was designated a conservation area in 1970 and the buildings within The Circle were listed along with the particularly attractive gantry-entrance dwellings on Ravenhurst Road opposite the Moor Pool.

In 2006 an Article 4 (2) Direction was approved as thirty years of "independent improvements" had led to an erosion character. All elevations visible from the street are covered by the Direction which specifies that Planning Permission is now required for external doors, windows, porches, small extensions, roof alterations (including dormers and roof lights), off street parking areas, access ramps, aerials/satellite dishes, gates, walls, fences and the painting of pebbledash /brickwork. Although it is perhaps too soon to be able to assess the impact of the Direction, it has been welcomed by local residents keen to maintain the special character of the estate.

In recent years the character of the estate had been under considerable threat following the purchase of the amenity spaces by the speculative development company Grainger PLC. However, in 2014 following the formation of the Moor Pool Heritage Trust (MPHT), the community facilities were purchased for £325,000 and the future of the estate is assured.

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URBAN PARKS FOR URBAN FUTURE

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INTRODUCTION

Liveable cities must encourage social diversity in urban spaces in order to create a socially sustainable future. While housing is of primary importance for urban living, outdoor spaces, in which social interactions occur, are equally vital and complementary. Therefore, it is required to develop an understanding of inclusive urban spaces.

The theoretical approach of the study is trilateral. Firstly, urban parks are asserted as places to observe in order to understand urban living and inclusive urban spaces. Secondly, inclusive urban spaces are conceptualized along with a discussion on the right to the city. Lastly, designers' and theoreticians' abstractions on urban living and inclusive urban spaces are discussed.

Hence the present study aims to create an understanding of inclusive urban spaces through readings on urban parks by investigating their spatial settings with their inclusionary and exclusionary characteristics for their users. This reading on urban parks also aims to represent a projection of the community living in the neighbourhood where the parks are located.

Urban Parks as Indicators of Urban Living

Urban parks can be conceptualized as lively sections through which urban living can be observed. Jacobs says that rather than having an impact on, parks are substantially affected from their surroundings[1]. Accordingly, types of visitors and activities that take place in parks are strongly related to the location of parks in the urban fabric.

In addition, activities that take place in parks are more various than other public spaces where expression of self is restricted to certain extend. According to Williams, parks are places where cultural meanings, ideologies, power relations are expressed.[2] In parks, relationships between visitors and urban space are manifested in events and activities. Therefore, local and non-local visitors' behaviours and activities together with complementary spatial settings can be interpreted as indicators of urban living in parks.

Similarly, an inclusive urban space can be interpreted according to its spatial settings that regulate social interactions and events. Urban parks are dynamic places with changeable environments. Their process of planning and design are overlapped with the process of using and maintaining. Accordingly, spatial settings and social interactions in parks change due to different manipulations that were made by designers and users. In the following chapters, designers' and citizens' different conceptions of inclusive urban space are going to be discussed.

Citizen's Approach to Urban Space and the Right to the City

Urban spaces can be conceptualized as infrastructures of social interactions. Accordingly, inclusive urban spaces can be thought as containers of diverse social interactions, encounters, and gatherings and be conceptualized along with an understanding of the right to the city.

Harvey claims that right to the city is right of citizens to have a say on urbanization process and to shape the city according to their desires[3]. Contradictory or intersecting power and property relations and desires are simultaneously existent in urban spaces. Therefore, the right to the city perpetually manifests itself throughout urban living.[4] Any intervention to urban space with an intention to draw exclusion line among citizens and citizens' reactions to the situation can be interpreted as a practice of the right to the city.

According to Lefebvre, the right to the city can solely be possible when urban living is put as an absolute resource among all resources and when urban space is formed according to the needs of the urban living where encounter takes place and use value of space is primary to any other value.[5] Lefebvre's statement can be interpreted, as social interactions within an urban space should constitute their own value with their inclusive properties. Inclusive urban spaces should contain contradictions that would stimulate encounters.

Hence the use of inclusive spaces should serve for contradictory needs of urban living. Social needs are conflicting and interconnected at the same time, such as the need for similarity and difference, isolation and encounter, security and opening, certainty and adventure[6]. However, any contradiction is usually excluded from the urban space and consumerism is imposed upon citizens as the appropriate living style. In a unilateral urban space without any contradiction or social interaction, isolation, homogeneity and exclusion become dominant characteristics of the urban space, instead of encounter, diversity and inclusion.

Designer's Approach to Urban Space and Abstracted Control of Urban Living

Competitive conceptions of citizens and designers on urban living continuously come across each other while the right to the city guides the way for an understanding of inclusive urban space. Architects and planners ambiguously or unintentionally favor control and restriction over urban space while trying to fulfill needs of citizens at the same time. They conceive parks as spaces where citizens can experience nature in a limited space and fulfill their recreational needs effectively. This conception can be interpreted as a result of an idealized and abstracted understanding of modern urban life.

Central Park, which is designed by Olmsted and Vaux in 1857, is regarded as an important example of modern urban parks. Mike Davis explains 'Olmstedian vision of parks' as an idealized conception of urban space where different classes and ethnicities would mix under common enjoyments and recreations[7]. Pleasure of gazing at a natural setting and spending leisure time in the extensive space of parks are conceived as inclusive activities which can be enjoyed by all types of visitors.

Additionally, Kosnoski's description of Olmsted's urban spaces puts emphasis on diversity. He describes Olmsted's urban parks as places for experiencing diversity without getting overrun by it.[8] Diversity can be interpreted as a prerequisite for encounter, hence a prerequisite for the right to the city in an urban space.

Vaux and Olmsted designed the spatial setting for Central Park as inward-looking small spaces that are distributed to a very large plane.[9] This setting was assumed to be the infrastructure for inclusive social events. However, a borderless and egalitarian space does not always end up being inclusive. Environmental circumstances and citizen's own conceptions of urban space may overcome what was planned to happen in an urban park. Mike Davis says that even though planned for public use, today's urban spaces are rapidly becoming homogenizing and excluding in character. He describes this phenomenon as turning inside out of the city.[10] Citizens' own conceptions for public use in urban

spaces eventually manifest themselves as the act of drawing boundaries between different groups. Conclusively, urban spaces, which are originally planned to stimulate diversity, end up becoming partitioned in accordance with the specific functions for specific users. Meantime, the conception of urban park as the container of diversity lost its popularity and meaning.

URBAN LIVING IN ISTANBUL

Istanbul as a global city is the scene of competitive spatial manipulations, power relations and practice of the right to the city. According to Keyder, migration of urban poor to Istanbul, spatial differentiation of middle class housing and fragmentizing effects of globalization have the most apparent impact on the built environment of Istanbul. [11] The distribution of housing, workplaces, urban parks and other urban spaces in Istanbul along with the existing historical fabric of the city have constituted a very diverse and complex urban pattern.

In Istanbul, parks are usually considered as secondary attraction points and are usually equipped with commercial and sports facilities that are segregated from common area of parks in order to sustain appeal for their visitors. Also, in a majority of non-historical districts of Istanbul, where new parks are constructed, number of shopping malls has outnumbered the urban parks[12]. The urban parks in Istanbul seem to be incapable of sustaining their popularity when they are compared to more exclusive, consumerist spaces such as shopping malls.

A general view on distribution of parks shows that historical parks constitute the majority of urban parks in Istanbul. Most of the historical green areas are located in coastal districts that span from Kucukcekmece in the west to Anatolian coasts of Uskudar, Kadıkoy and Beykoz in the East[13].

The non-historical urban parks in Istanbul are located in districts in inner regions of Istanbul; also coastal parks which are planned upon coastal filling ups[14] are considered among new parks.

Three Cases of Non-Historical Parks in Istanbul

The case study investigates three non-historical parks from different districts with similar types of urbanization processes that are based on an unplanned growth due to the migration to Istanbul. Selected sites, Bayrampasa, Zeytinburnu and Bagcilar are among the districts with the densest population in Istanbul.[15] All sites have a complex urban pattern, which consists of urban parks along with low-rise apartments, “gecekondu” houses, gated community housing and shopping malls.

The parks have large areas and contain different spatial settings that appeal to different visitors. City parks and coastal parks are built in order to appeal people from distant areas; so they have a wider range of visitors. Neighborhood parks on the other hand, have smaller space and visitors from near settlements.

Partitioned Urban Space of Bayrampasa City Park

Bayrampasa City Park is opened in 2003 with partitioned spatial settings for diverse recreational, commercial, amusement, and sports activities. Small-scaled spatial settings in the park such as playgrounds, outdoor sports implements, walkways, benches, drinking fountains, pergolas are accessible to every visitor. Also, bigger scale spatial settings such as amphitheater, zoo gardens, and fruit gardens are constructed in order to gather different visitors under the program of spectating. Additionally, there are numerous exclusive spaces in the park such as cafes and restaurants that appeal to certain type of users who can afford to spend time in these places.

Several observations to park indicate that designers’ initial conception of urban space is interwoven with demands and conceptions of local municipality. Most of the activities that are held in park are organized by the local municipality such as memorial and award ceremonies[16], monument openings[17],

gatherings[18] and sports competitions[19] which usually take place in bigger scale spatial settings of the park.

Additionally, other entrepreneurs who expect an income from use of the park have caused changes on the land of the park. The number of cafes and restaurants in the park are increased with the aim of financial profit. Moreover, a new restaurant is built right under the amphitheater shows that land of the park is continuously redesigned according to demands of different companies that run business in the park. In 2006, the construction[20] of an amusement park in the urban park is also conceived as an indicator of how citizens' the right to city is overwhelmed by entrepreneurs' right to the profit.

As a park mostly visited by locals, the right to city is practiced in leftover places of the park. Visitors picnic on the grass, play in the playgrounds, walk and run on appropriated paths. There are also some visitors prefer to spend time in more consumerist places like cafes and restaurants.

Consequently, limited number of outdoor spatial settings seems to give the opportunity to visitors to encounter and establish an egalitarian relationship in the park. However, exclusive spaces like cafes, restaurants, and other privatized sports facilities and their users seem to have priority over other spaces and their users.

Introverted Urban Space of Dr. Sadik Ahmet Neighborhood Park

Dr. Sadik Ahmet Park is a neighborhood park in Bagcilar. This small-scale urban space is mostly dominated by one café, which is located at the center of the park. Additionally, walkways, benches, sports implements and playgrounds are spatial settings in *Dr. Sadik Ahmet Neighborhood Park* that appeal to every visitor from the neighborhood.

The conceptions of local municipality or any designer are not apparently manifested in the spatial setting of the park. On the other hand, the right to the city is practiced very differently from *Bayrampasa City Park*. Although no visible spatial segregation is designed in the land, visitors use spatial settings of the park according to an invisible segregation.

The local women, elderly and children are observed to be using benches and playgrounds in the park. However, inner space of the cafe was spatially set according to needs of men with water pipes and televisions that are constantly broadcasting the news. Also, the social media shares that are tagged with the park's location contain mostly photos of male visitors[21]. The park as an urban space is observed to be more appealing and inclusive to men rather than to women.

The gender based spatial segregation in the park can be interpreted as a manifestation of community living in Bagcilar. In *Dr. Sadik Ahmet Neighborhood Park*, social control rather than spatial control is apparent. Urban space is fragmented under the gender discriminations accepted by the community itself. Although, café with its spatial settings may partly be considered inclusive for Bagcilar, gender based segregation, rather than consumerist relationships, seem to be the cause of the hierarchical relationships and the discrimination between users of the park.

Isolated Urban Space of Kazlicesme Coastal Park

Kazlicesme Coastal Park is located in Zeytinburnu and placed on a coastal filling up alongside an extensive motorway. The area of the park is 144.070 m^2 [22] and bigger than any other park that is selected as case in this study. The area of park has its natural boundaries with Marmara Sea at the one side and the motorway at the other. The land of the park is poorly designed with sparsely installed spatial settings. The park's extensive space with low-density forestation gives the impression of a deserted, unidentified space. Nevertheless, there is no sign of spatial segregation or exclusion on the oversized flat surface of the park.

The absence of restaurants, amusement parks or parking lots makes the park unattractive to investors and businessman who prefer to use consumerism as a tool for spatial segregation and exclusion.

Accordingly, designers' and local municipality's approach to the urban space can be summed as furnishing a stagnant land with minimum involvement and with the lowest cost.

Conversely, in the summer months, *Kazlicesme Coastal Park* is filled up with visitors. According to a newspaper, the park is preferred as an inner city picnic area and gets full with people making barbecue.[23] The visitors of the park spend time enjoying outdoor activities while using furnishings that they have brought with. They share the sea view, walk, eat and play without any imposed spatial segregation or exclusion. Rather than the effect of spatial settings that are designed by architects, the formation of this inclusive urban space seems to be the result of temporality, atmosphere and place making.

On the other hand, conceptions of different citizen groups on using open space are observed to be in conflict in *Kazlicesme Coastal Park*. Some visitors were not pleased with the unregulated and uncontrolled spatial use of the park. Furthermore, there was even a petition against barbecuing in coastal areas of Istanbul.[24]

Consequently, two different practices of the right to the city were manifested in converse ways in the park. Although any spatial segregation or exclusion was not imposed upon the park's visitors, conflicting conceptions of visitors indicate that different cultural concerns of citizens create different conceptions of urban space and therefore different practices of the right to the city.

CONCLUSION

Urban living and urban space constantly reshape each other. Therefore, every statement or projection on urban space must firstly rely on urban living. Sociologists', architects' and planners' projections for urban living, which lacks of an understanding of urban reality, are destined to fail. As a result, dynamic strategies for understanding the urban reality are needed and these strategies must be in connection to the context and locality of every urban space.

The three cases of urban parks in Istanbul showed that designers' approach to urban space is mostly sided with control, exclusion and consumerism. Urban parks with surrounding walls, control points, commercial spaces, parking lots, privatized sports courts, elegant cafes can easily be detected as tactics for exclusion. Hierarchical relationships, which are easier to be controlled, are frequently imposed on users in urban parks as in the example of *Bayrampasa City Park*.

Conversely, even though a spatial setting such as the café in *Dr. Sadik Ahmet Park* was expected to be causing segregation around socio-economic status of the visitors; the hierarchical relationship between visitors was caused by a gender-based segregation that was inherent in the local community. In *Dr. Sadik Ahmet Neighborhood Park*, the boundaries that were drawn by cultural concerns were more dominant than the boundaries that were drawn by spatial settings.

In addition, lack of spatial settings in *Kazlicesme Coastal Park* was expected to create a deserted and unattractive urban space. However, visitors of the park preferred to bring and establish their own spatial settings for leisure rather than going to consumerist places like restaurants or shopping malls. Notwithstanding, lack of regulation and spatial control over the urban space showed that citizens' conceptions on using urban space might collide.

Subsequently, spatial restrictions and boundaries may impose upon a regulation on the relationship between users of urban parks. However, spatial restrictions and boundaries are observed to be changing or resolving in time when they are not met with social living.

This study shows that urban parks can both be the places for hierarchical relationships or practice of the right to the city. The hierarchical relationships may be based on exogenous consumerism or may be implicit in the community itself. However, if urban living must be the resource among all other resources that shape the urban space as Lefebvre has stated, these hierarchical relationships must be unfolded and dissolved.

To conclude, theories for urban spaces and the right to the city should not only concentrate on variations of consumerist appeals in urban spaces. The case study on three urban parks in Istanbul points out that locality, context and temporality are important elements for the practice of right to the city. Designs of urban parks that would enable the continuity of social practice in urban living must be encouraged in Istanbul. Similarly, future studies that would advance the conceptions of locality, context and temporality in urban space might lead to a better understanding of the right to the city and inclusive urban spaces.

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IS ALL-ELECTRIC AN OPTION? ABOUT RETROFITTING AND GENTRIFICATION OF PRE-WAR TENEMENT APARTMENT BLOCKS IN AMSTERDAM

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INTRODUCTION

Is all-electric or zero-carbon an option in the sustainable exploitation and replacement of inexpensive natural gas use in Dutch pre-war tenement apartment blocks of housing associations? Reducing CO2 emission and the reliance on fossil-fuel-dictatorships for the housing stock is a good ambition. The recently published *Aedes Woonagenda 2017-2021* speaks about CO2-neutral housing stock for all housing associations in 2050.[1] However, in a country with cheap natural gas the transition towards zero-carbon exploitation of this housing stock is difficult. This article describes the renovation of eye-catching projects in Amsterdam from the archives of the NRP Gulden Feniks Award.[2] All those projects with an integral approach of characteristic architectonic brickwork, tenants' preferences, and sustainability led to particular results in the period 1995-2015 in Amsterdam. Finally, we describe recent developments and give an outline of a workable intervention framework to renovate this housing stock to all-electric and then we will come back to the main question.

SUSTAINABILITY AFTER THE RENEWED HOUSING ACT OF 2015

For a number of reasons, transforming to zero-carbon at this housing stock is not an easy task. The impact of the worldwide financial and real estate crisis from 2008 onwards were enormous and the sale of houses stagnated. This was not a good starting point for the funding of projects by Dutch housing associations. Between 1995 and 2015 they financed the building of social houses (30%) by selling off a part of newly built houses (70%). The already developed plans were executed but new plans were not developed in the years after the crisis.
Nevertheless, housing associations agreed in the *SER-energieakkoord* of 2013 to renovate their existing housing stock to an average Energy Performance Certificate B, then to Certificate A by 2030 and zero-carbon by 2050. On March 1, 2013 the VAT rate on labour costs for the reparation and renovation of houses was reduced from 21% to 6% but on July 1, 2015 that rate was withdrawn. At the same time however, the requirements for sustainability have been further tightened.[3] For new

buildings BENG (Almost-Energy-Neutral) is required by January 1, 2021 and new requirements for existing buildings are still being considered.

The change of the Housing Act of July 1, 2015 had a profound influence on the renovation of the housing stock. The reason for the change was that the government wanted to subsidise people in need instead of buildings. Since that change housing associations have only been allowed to develop, build, and rent houses to the target group. Project developers plan, build, and rent or sell other housing categories. Furthermore, housing associations and landlords with more than 10 houses are since charged a fee by the government and tenants who live in social houses with too high an income face considerable rent increases.

Not every housing association directly has the investing capability to renovate their housing stock to EPC B. Deep renovation of pre-war tenement apartment blocks is costly because of the repair of bearing walls and foundations of the blocks in inhabited state. If households have to be moved, each receives a legally established moving fee of €5,910. Furthermore, by Dutch legislation 70% of the tenants in an apartment complex must agree with the proposed renovation plans and the change in rent.

In Amsterdam, with a relatively large social housing stock (ca. 45%) and great shortage on the housing market plus a policy of mixing housing categories, associations have sold their apartments or rented them out expensively. Comparably, in The Hague with much less social housing (ca. 30%) the sale of social housing has been undesirable. For that reason, the tenement apartment blocks have been renovated at a much slower rate.

Another consequence of the renewed Housing Act is that the flow of tenants stagnated. The mutation rate was already very low in attractive residential areas near historic centres. No one wants to leave their home for another with a higher rent to pay based on a newly introduced point system determining the rent level. In this point system the location in the city and the value of the real estate are parameters. But that's not the biggest problem, which is that there are hardly any housing replacements for these people and few affordable dwellings have been added to the housing stock. Because of all this uncertainty, the mutation rate remains low. In panic municipalities, government and housing associations are trying to stimulate people to move with flow plans like ‘Van Groot naar Beter’ in Amsterdam. With a ‘Samenwerkingstafel’ in 2017, the government is collaborating on an agreement with stakeholders about the flow of tenants.[4]

Since the renewed Housing Act took effect, new houses are only being assigned to tenants with appropriate low incomes. Consequently, tenants with low incomes are gradually being concentrated in neighbourhoods with tenement apartment buildings. Yet segregation is not a good prospect for cities.

From the tipping point 2015, there have hardly been any major deep renovations of pre-war tenement apartment blocks by housing associations mentioned in the archives of the NRP. But then what were the successes of renovation in the Golden Period from 1995 to 2015?

BEAUTY IS SUSTAINABLE: GENTRIFICATION OF NEIGHBOURHOODS 1995-2015

As part of a wider gentrification policy, pre-war period residential building renovations in diverse neighbourhoods of large Dutch cities began in the last decade of the twentieth century.[5] For the housing stock inside the ring road of Amsterdam there was a policy in place to improve and retrofit old one-sided workers’ neighbourhoods for more socio-economic differentiation with residents of various lifestyles living side by side to strengthen the local economy. The city wanted the neighbourhood to maintain its amenities, thus improving the future value of the residential district and buildings,[6] despite doubt about this approach.[7] After the renovation of the social houses a part was

sold and another part was rented outside the social sector. Note that attractive architectural icons were refurbished. The municipality, the Amsterdam Federation of Housing Associations AFWC, the Renter's Association of Amsterdam HA and other organisations[8] made an agreement and framework between them about this approach. The historic façades on the street-side would be restored but the garden-side, floor plans and in some cases also the private gardens inside the blocks would be completely changed by housing associations and tenant organisations. Gentrification was the result. Between 1995 and 2016 the change of the average selling price of existing houses, the ownership of these houses, and the number of houses that were sold was enormous, especially inside the ring road, the belt of the city with interwar houses.[9]

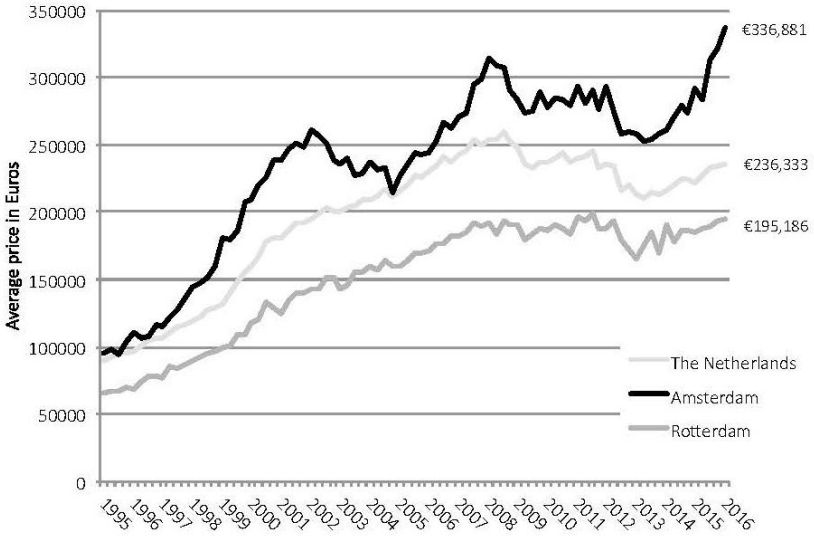

Figure 1 Hochstenbach 2017: 28
Average sale price houses in Amsterdam and Rotterdam

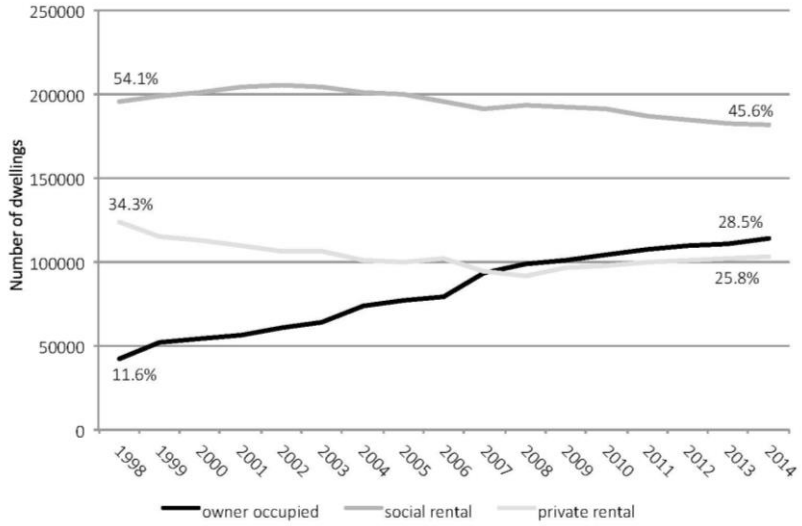

Figure 2 Hochstenbach 2017: 40
Ownership Amsterdam housing stock

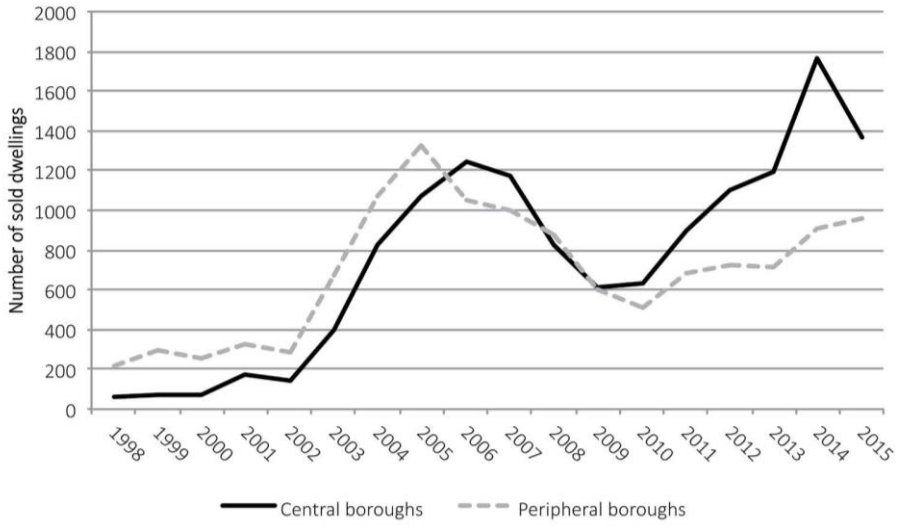

Figure 3 Hochstenbach 2017: 40
Number of existing sold by housing association

Another cooperative agreement was made (Samenwerkingsafspraken) for the period 2015-2019 between the municipality, AFWC and HA to allow housing associations to sell a maximum of 2,000 dwellings per year and free another 1,000 for higher sector rentals. Ultimately in 2016, 1,325 were sold to individuals, 112 to investors and 520 rented on the free rental market. In the year 2015 housing associations sold 2,042 homes and 869 went to the free market.[10] Since then the property sale inside the ring road has been sharply tempered. The year 2015 was a turning point.[11]

TABEL 16
Verkoop corporatiewoningen aan particulieren per stadsdeel*

	Centrum	West	Nieuw-West	Zuid	Oost	Noord	Zuidoost	totaal
1998	32	29	8	0	0	4	206	**279**
1999	51	4	96	0	22	15	188	**376**
2000	14	9	67	8	38	102	85	**323**
2001	2	66	78	52	52	164	88	**502**
2002	6	35	44	55	52	105	137	**434**
2003	47	140	65	70	141	322	283	**1.068**
2004	114	320	231	180	211	448	398	**1.902**
2005	119	405	417	171	375	558	357	**2.402**
2006	68	596	257	146	437	490	302	**2.296**
2007	94	531	205	203	342	470	326	**2.171**
2008	55	362	141	148	264	428	306	**1.704**
2009	53	232	145	116	208	277	183	**1.214**
2010	84	256	142	99	199	189	175	**1.144**
2011	77	382	132	229	214	364	186	**1.584**
2012	156	431	202	254	266	324	195	**1.828**
2013	124	394	215	330	349	342	161	**1.915**
2014	192	594	258	570	412	436	220	**2.682**
2015	176	473	272	369	355	453	239	**2.337**
totaal	**1.464**	**5.259**	**2.975**	**3.000**	**3.937**	**5.491**	**4.035**	**26.161**

Figure 4: AFWC 2016

In the attractive neighbourhoods of Amsterdam charming pre-war tenement apartment blocks were refurbished to EPC B or even A by housing associations. Eye catching and sometimes listed

monuments mentioned by the NPR Gulden Feniks were partially rented outside the social category and a number were sold. The plan for renewal of the working-class neighbourhood Spaarndammerbuurt (1914-1920) from 2001 onwards had two objectives: profiling of tourism and the promotion of a mix of lifestyles and income groups.[12] In this neighbourhood in 2014, 71% of the homes were still held in the social rent category. The double block around the Zaandammerplein was one of the first major projects. The ensemble was divided into several residential buildings in sturdy brick rationalism. It was renovated between 2005 and 2010 and included the merging of 100 apartments for social rent. Spaarndammercarré are four blocks on an intersection. The houses all got EPC A. In this case, the courtyards inside the blocks were changed to create storage rooms and a common roof garden was realised. Stairwells were removed and galleries and lifts were added. The double block Zaanhof, also in sturdy brick rationalism with about 256 apartments, was an ensemble of five residential buildings designed by different architects and housing associations. Here only some galleries and lifts were added. In Spaarndammercarré and Zaanhof some apartments were sold, some rented outside the social category and another part remained for social rentals. The most iconic project was Het Schip, a tenement apartment block from 1919 in Amsterdam School Expressionism. An old school in the block was refurbished into a museum about how the working class was living in the interwar period. After the renovations a part of the apartments were rented outside the social housing category.

Figure 5: Zaandammerplein (picture Archivolt architecten)

In the *Bos en Lommer* neighbourhood the renovation of the Koningsvrouwen van Landlust took place between 2007 and 2012. About 134 small apartments were merged into 102 large ones. In the *Indische Buurt* around the Makassarplein many old tenement apartment blocks were refurbished, like the Gorontalo project executed between 2007 and 2014. After its transformation some apartments were rented outside the social housing category.
In a block of characteristic Amsterdam School architecture along the Hoofdweg in *De Baarsjes* neighbourhood, 60 apartments were retrofitted of which 34 were sold thereafter. *Czaar Peterbuurt*-development with 520 apartments and 50 shops is one of the great retrofit projects accomplished by housing associations. It was a neighbourhood with structures from the nineteenth century. Several old houses and other buildings were transformed into large apartments. The renovation started in 2009 and was completed in 2016. Some of the apartments were sold after the transformation of old buildings into a new complex.

Figure 6: Koningsvrouwen in Landlust (picture Archivolt architecten)

INTEGRAL INTERVENTIONS BOX-IN-BOX-RENOVATION

The renovation of pre-war homes according to the NRP shows only one option: an integral box-in-box-renovation. Not only sustainability but several other issues are addressed like fire safety, sound reduction between apartments and redesign of the floor plans. Stakeholders worked closely together according to agreements made.[13] The box-in-box-renovation usually comprised all the apartments on one stairwell in uninhabited state. The attic, usually used for storage, was generally merged with another apartment. Part of the refurbished and merged apartments were sold or became free sector rentals. If one stairwell was finished the next was started until all the tenement apartment blocks were completed. In some cases, private gardens were changed into storage blocks and a community roof

garden was added. Other times the stairwell was replaced by a gallery on the garden side with lifts. The inevitable choice for a box-in-box-renovation is due to a number of structural problems:

- outdated floor plans
- high energy demand
- airtightness
- moisture problems
- noisy neighbours
- poor fire safety
- outdated pipes, channels
- shallow balconies
- weak foundations

Inside the ring road housing associations refurbish with a depreciation period of 40 years. With box-in-box-renovation the integral interventions are collectively addressed: thermal and sound insulation, fire safety, floor plan improvements and infrastructure replacements. The construction method is a dry construction one and new pipes and channels are concealed in the new walls. The sustainability goal means low temperature heating so that apartments change from Energy Performance Certificate F-G to B-A. For central heating and tap water a Natural Gas Heating Water Boiler is usually installed. The ventilation system changes from natural to mechanical. Fire and smoke resistance, sound reduction and ventilation of existing apartments are fitted according to building regulations for new housing. A box-in-box means that within existing structures of old bearing walls and wooden floors a new box is created that reduces noise, fire, smoke, and energy-use demands. The floating floors, suspended ceilings and all walls of the apartment are insulated. Because repairing the bearing walls and foundation and addressing moisture problems are necessary in Amsterdam, usually the wooden ground floor construction is replaced by concrete insulation. The advantage of this box-in-box-renovation is that floor plans can be changed and small apartments merged.
According to the NRP archives, RVO database, and guidelines of Eigen Haard, there are priorities among the different interventions.

1. Improve the skin of the building and reduce energy demand. Aim is applying low temperature heating LTH and mechanical ventilation, if possible with demand control ventilation DCV.[14]

Renovation of interwar tenement apartment blocks between 1995 and 2015 in Amsterdam usually limit themselves to these two measures, either EPC B or higher. To come to all-electric it is necessary to invest in more interventions. Investments are greater, survey systems and maintenance more complicated. These interventions are:

2. Advanced heating system:
    - Bio or synthetic gas.
    - District or local heat network for waste industrial heat, biomass or geothermal heating.
    - Central or local heat pump with air (ASHP), water (WAHP) or earth (GSHP) as heath source. The CV is LTH and domestic tap water heated with a booster with heat pump, a small electric heater is still necessary in winter time.
3. Extra: mechanical ventilation heat recovery (MVHR).
4. Extra: photovoltaic panels or sun boiler.

Conclusion is that all-electric exploitation is technically possible if one is prepared to invest in additional interventions. The described cases of the NRP show that an EPC A or higher is possible

with an Energy-Index between 0,71 and 1,05. So far though, there is no refurbishment of a tenement apartment block from this period to all-electric.

Figure 7: Czaar Peterbuurt (picture Hooyschuur architecten)

New realism after 2015

Nowadays, housing associations in Amsterdam aim for an EI =< 0,4 (EPC A+++) according to building regulations for new homes. However, in recent years they have only refurbished some small projects aimed at EPC B: out of date renovations without any ambitions.[15] A similar or even worse development took place in Den Haag and Rotterdam.

The integral box-in-box-renovation from the period 1995-2015 with the characteristic brickwork facades, user preferences and sustainability within the Amsterdam ring road crystallised into a success formula for a certain period of time. Although the renovations in themselves were successful, there was no regard taken for the original interiors often with beautiful tile work, wood frames, and panel doors and wall cabinets with stained glass sliding doors. Despite the life span cost of a building, embodied energy was also not taken into account. The integral approach comprising heritage, sustainability and user preferences was already difficult but with the altered Housing Act in 2015 a new realism appeared for simple renovations of small apartments in terms of allocating tenants to the appropriate dwellings. Such new realism only appeared after the change of the Housing Act.

FINALLY

Is zero carbon an option in the sustainable exploitation and replacement of inexpensive natural gas use in Dutch interwar tenement apartment blocks of housing associations? It seems that the approach between 1995 and 2015 was only possible because of the huge appreciation of real estate in the beautiful historic residential neighbourhoods in Amsterdam, part of which were sold. The complex and expensive renovations were financed by selling apartments. This explains why the interwar apartment blocks in Amsterdam were renovated and not in The Hague where simply no apartments were for sale. All-electric is too expensive for a regular renovation in the social rental sector, especially since these homes are assigned appropriately to people in relation to their income. Furthermore, the decision now taken by housing associations, municipalities and tenant organisations is not to sell apartments in their stock. That’s why the expensive renovations can no longer to be

financed. If the objective is an all-electric exploitation of tenement apartment blocks one could draw the conclusion that someone has to pay for the investments. This is the consequence of the changed Housing Act of 2015.

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URBAN FOOD PRODUCTION: INCREASING RESILIENCE, LIVABILITY, AND A SENSE OF COMMUNITY IN BRAZIL, CUBA, AND NEW ZEALAND.

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INTRODUCTION AND HISTORICAL BACKGROUND

This paper presents the findings from part of a larger research project about the reduction of environmental impact created by producing food within urban areas. The importance of the population's diet in the composition of their environmental impact is a relevant matter. Currently, this is not widely and fully considered when urban planners and designers, architects and landscape architects attempt to design sustainable buildings or neighbourhoods. An understanding of how people made up their diet seems to be beyond the designers' scope. On the other hand, several studies in different parts of the world have been suggesting remarkable contributions to sustainability from the production of food inside urban areas[1,2]. In order to assess the benefits of community gardens, several initiatives have been investigated in different parts of the world. Following this, three examples, in three different countries, have been selected to compare the potential social contributions from the production of food inside urban areas. Food production in urban areas is defined by Tornaghi (2014) as small-intensive urban farms, food production on housing estates, land sharing, rooftop gardens and beehives, schoolyard greenhouses, restaurant-supported salad gardens, public space food production, guerrilla gardening, allotments, and balcony and windowsill vegetable growing.[3] This paper aims to create a comparison between different approaches and different backgrounds for the production of food in urban areas.

Undeniably, cities have always relied on the production of food inside as well as around their perimeters.[4,5,6] Examples of societies which were dependent on their hinterlands to provide fresh food are plentiful throughout history.[7] The lack of fossil fuel transportation for most of human history made it essential that cities kept their production of food nearby their main urban centres. However, because food is now an international market of importing and exporting, often over large distances, cities have become less dependent on their hinterlands for the production of immediate food resources.[8] Examples of cities still heavily relying on urban food production are however, still abundant, particularly in developing nations. According to the Food and Agriculture Organisation of the United Nations, 800 million people are still directly engaged with urban agriculture.[9] Often this is based on need and survival. Recently there has been a growing movement worldwide to re-introduce food production in urban areas, particularly in developed nations, primarily as an effort to increase the sustainability of cities.[10,11,12,13,14,15]

Urban food production is often associated with increased sustainability for at least two main reasons. The first is to produce more food closer to where people consume it, thus reducing 'food miles' or the distance food has to travel, and with it greenhouse gas emissions associated with that travel. The second is to increase the amount of vegetables and fruit in standard diets for positive nutritional and health outcomes, but also to reduce intake of animal based foods which typically have much higher associated greenhouse gas emissions in their production. This second reason for promoting urban food production

as a means to achieve greater sustainability of cities is likely to have a much higher impact in terms of reducing greenhouse gas emissions than a focus on reducing food miles.
This paper presents three cases from three different countries and compares their models of urban agriculture to assess their contribution towards increased resilience, urban liveability, and an enhanced sense of community. The wider research this paper is part of has seen 200 gardens being visited in twenty-one countries. The cases presented in this paper illustrate three very different kinds of urban agriculture and are from São Paulo, Brazil – *Cidade sem Fome*, Havana, Cuba – *Vivero Alamar*, and Wellington, New Zealand, *Innermost Community Garden*.

CASE STUDIES

Case Study One: São Mateus

Location: São Paulo, Brazil
Organistaion: NGO Cidade sem Fome
Interview conducted: May 2017
Visit undertaken: June 2017

São Mateus is a district of São Paulo city in Brazil. The Garden was created by the NGO Cidade sem Fome (City without Hunger) and is based on the principles of the NGO's mission statement. Cidade sem Fome's mission is to provide financial self-sufficiency for socially vulnerable families through the production of food inside urban areas. The NGO locates potential sites, and then identifies families in the region that are socially vulnerable. People such as single women with large numbers of children, elderly people out of employment, those who have a rural agricultural background, or people without formal education are normally prioritised. The sites used by the NGO are mostly located on privately owned areas. After the site is identified and a legal agreement is reached between the site owner, the NGO, and the chosen families. The families are trained, and the garden is prepared to start producing food. The NGO educates people in agricultural techniques and sales and administration skills. Another part of the NGO actively searches for new supporters and donors.
The São Mateus site is located on a site owned by an energy supply company. The garden occupies the space available under the powerlines. Cidade sem Fome has a long-term contract with the energy supply company, guaranteeing ten years of free rent with the contract renewable for a further ten years after that. The total investment in the area was approximately US$22,000 (2017). The investment includes netting to protect the crops against summer rains (US$9,500), ten rain water containers (US$5,700), a compost system (US$4,300), and seeds (US$2,500). Additional information is shown on table one.
For the site's owner, the garden is beneficial because formal renting is not possible under the transition lines and the owner is otherwise responsible to keep the land free of rubbish. The garden can be operated under the towers (power lines) and the site is kept tidy by the initiative, and the owner does not have the expense of site maintenance. Production of food from all of the Cidade sem Fome garden sites aim to produce enough food to feed the families involved and to sell the surplus. The São Mateus site is run by five families and their sales provide a living wage to approximately thirty people. The garden provides an income of 2.3 times the average minimum wage of the area. In addition, the families have a substantial reduction in their expenditure on food which, in the area, can compromise around twenty percent of a typical Brazilian family's living costs.[17] According to the NGO, the produce from the São Mateus Garden reaches around 1000 families in the region. The produce prices are similar to those found in local supermarket or vegetable markets. The garden directly receives approximately thirty customers a day. The garden produces lettuce, rocket, chard, carrots, beetroot, broccoli, cauliflower, cabbage, aloe, spring onions, parsley, manioc, sweet potato, corn, basil, thyme, banana, passion fruit, pumpkins, and

several kinds of medicinal plants and teas. The garden is self-sufficient and is well established and known in the region.

Case Study Two: Vivero Alamar

Location: Havana, Cuba
Organistaion: Vivero Alamar Cooperative
Interview and visit conducted: January 2017

Vivero Organoponico Alamar was founded in 1997 by five people on an 800m^2 site in Alamar, a district on the east side of Cuba's capital, Havana (additional details are provided on table one). The cooperative which runs the garden currently has 150 members. The Vivero (nursey) Alamar is on government land. The production is intended to provide fresh food to the direct vicinity, but the success of the production attracts buyers from other parts of the city and even restaurants that cater both to locals and tourists in Havana. The cooperative's president, Miguel Angel Salcines Lopez, defines the cooperative model as a private-collective company and says it is an attractive model to Cuban workers. He states that to attract employees, they offer wages slightly higher than those of most unskilled jobs in Cuba. In addition to the wage incentive, the members (workers) work seven hours daily, compared with the normal eight hours for most of the year, and six hours daily during the summer months in other typical jobs. The cooperative also provides educational support for the members of the cooperative. Distribution of the earnings are fortnightly, which maintains a permanent member overview or transparency of the financial performance of the cooperative. The financial model of the cooperative distributes fifty percent of the profit to its members while the remaining fifty percent is reinvested into the Vivero. Originally, the Vivero operated tax free, but government policy changes mean the Vivero now pays five percent of the profit to the government.

The entire production is self labeled as organic. The Vivero Alamar is self-sufficient in the production of seeds, organic fertilizers and water. Great effort is dedicated to the production of natural fertilizer from the manure of onsite animals, and earthworms' humus. According to Lopez, the garden has the potential to produce up to 400 tonnes of food per year, but currently to sustain its production, the Vivero is producing 200 tonnes per year. The production is mostly based on vegetables with short harvest times and leaves, such as lettuce and spinach, but the Vivero has a very large range of produce available such as stevia, potato, taro, sugarcane, beetroot and flowers.

Case Study Three: Mt. Victoria Innermost Garden

Location: Wellington, New Zealand
Organistaion: Innermost Garden Community Trust
Interview and visit conducted: January and March 2016

The Innermost garden was originally created in 2006 in Wellington, New Zealand's Capital city. It was established to provide opportunities for migrant and refugee women to join the Wellington community. It aimed to promote cultural exchange and develop friendship between different cultures. The space was created to allow women to reconnect with the land, and pass on their skills about sustainable gardening and traditional cultural rituals to younger generations. The original location was in the suburb of Newtown (approximately four km from the current site), but this was not ideal due to access and resulted in lower participation of migrants, refugees and even locals. When the Innermost Garden moved to its current location in 2008, to publicly owned land by the Wellington City Council that formerly was a bowling club, it had to include the wider community. It became a community garden but still aims to embrace different cultures and promote interchanges between people with different backgrounds. Its organisation is based on a non-hierarchical structure. Only a few management staff appointments are

made to keep the initiative running smoothly. The community hall, which was originally the bowling clubhouse, enabled the garden to host events and provides additional income through renting it out for other uses.

The bowling club had used large amounts of heavy fertilizers (possibly DDT) to maintain the greens, meaning the soil had to be cleaned and remediated. The process of cleaning the site took two years and because of the contamination the first crops had to be developed in raised beds. The organisation does not only grow herbs, vegetables, fruit and flowers, but also hosts meetings, organises workshops on gardening (and other topics of interest of the community) and holds evening events such as community dinners.

When the site was visited in March 2016, the production was based on communal plots. However, there were some spaces for individual allotments. According to members from the garden, when people have ownership over some plots, they tend to participate more in the events. As a result, they were planning to increase the number of individual allotment areas, but still maintain communal plots as well. The garden holds two open gardening days a month (first and third Sundays of the month). Part of the produce harvested is distributed to those who worked on those days. As an open garden the participation on the gardening days varies a lot. On some garden days there are no newcomers, and on others up to eighty percent are new people joining in for the first time. According to interviews with some members of the garden, the biggest challenge is ensuring the ongoing participation of the community and maintaining an adequate number of volunteers.

RESULTS: COMPARING THE CASE STUDIES

Table 1 shows the results from the case study visits and interviews.

Table 1: Comparison between the three case studies in Brazil, Cuba and New Zealand.

	Sao Paulo	Havana	Wellington
Urban Area Population	12,038,175.00[17]	2,100,000.00[18]	496,000.00[19]
Area (ha)	152,753.58[20]	72,800.00[21]	29,000.00[22]
Density / ha	78.81	28.85	17.10
Database for Urban Areas	Not existent	Existent, but not available	General data available but lacking in depth
Quality of available data regarding location, production and ownership	Sao Paulo Municipal Authority divides the city into 31 administrative zones. Each zone is responsible for the collection of data related to community gardens, urban farms or for any food production sites. There is no standardisation of data, and no reliable source available for data. Only one administrative zone had	Every orgonoponico is catalogued, the production is controlled and the productivity is checked after every season. The data, however, was not made available for this research as it is considered sensitive and is part of the government food security strategy.	All community gardens and urban farms are registered, but there is no centralisation of production data, nor record of number of people involved.

	data, but did not make it available for this research.		
Garden studied	**Sao Mateus - Sao Paulo**	**Vivero Alamar - Havana**	**Innermost - Wellington**
Year established	2010	1997	2006
Size of the garden (ha)	0.80	11.40	0.33
Planting area (ha)	0.75	10.40	0.04
District / suburb Population	426,794[23]	100,000[24]	5,040[25]
District Area (ha)	2,430.00[26]	1,500.00[27]	56.60[28]
Density people / ha	175.64	66.67	89.04
Population within 400m radius of garden boundaries	1,274	1,386	197
Food production area per person within 400m radius (m^2) – excluding private owned gardens	5.89	75.04	2.03
Production of food (t/year)	42	200	1 (estimated)
Amount of food produced per person within 400mKg/year)	32.96	144.30	3.56
Organic Production	Yes	Yes	Yes
Organization	NGO Cidade Sem Fome	Cooperative	Community Trust

Garden Operation	Independent producers trained by the NGO (5 families, approx.. 30 people)	Cooperative (150 people)	Volunteers (from 4 to 20)
Site Ownership	Private area - rented for 10 years free of charge	Government area	Public area leased to a charitable trust
Garden Management	A person trained by the NGO	Cooperative (150 people)	Volunteers
Data collection method	Interview and Visit	Interview and Visit	Interview and Visit
Main products	Lettuce, Rocket, Carrot, Beetroot, Broccolis, Cauliflower, Cabbage, Coriander, Manioc, Sweet-Potato, Corn, Basil, Pumpkin	Lettuce, Spinach, Carrot, Onion, Sugar Cane, Stevia, Taro, Sweet Potato, Beans, Pumpkin, Rabbits, Milking cows	Lettuce, Beetroot, Tomato, Silver Beet, Parsley, Spring Onion, Celery, Mint, Rhubarb, Broccoli

Table one shows remarkable results for those directly linked with the gardens, either as workers or volunteers. The main benefits for those directly involved in the gardens vary, but tend to be: increase in wages of those involved, improvement in the quality of diets, and engagement in different cultures or physical activities. The indirect impacts, being the impact for those that live around the gardens, is harder to measure or establish. As the urban food production models are very different in terms of organisation and goals, the results are equally different.

The New Zealand case study profiles a garden whose participants are less proactive, and because of their current problem of attracting larger numbers of people to become involved, the beneficial effect on the wider community is limited. On the other hand, the community hall and the permanent effort to promote cultural events suggests an underused potential that may develop in the future.

The garden profiled in the Brazilian case lacks cultural events, but the garden is progressively becoming an important player in the community. Interviews with the people who live nearby or work in the garden indicate that the community is progressively using the garden to hold meetings and discussions about organic food and healthy diets more often. The interviews also indicate an increase of vegetable consumption among people because the garden provides a convenient and fresh option for vegetable access to the community.

The Cuban case study garden hosts training events related to agro-business and the large number of members help to disseminate the knowledge acquired from the training promoted by the cooperative to the wider community. Factors such as access, which means that the sale point is on the way home or to work, price, and availability are the most important decision factors to increase the consumption of the food produced. The size of the garden and the larger scale of the cooperative means the produce that is grown reaches a larger proportion of the community directly around it. As the Vivero Alamar is in the central area of the Alamar neighbourhood on one of the main access routes, it is fair to assume that the Vivero Alamar plays an important role in the overall composition of the community's diet. There are two main outcomes from the Cuban model assessed. The first outcome is that the people who are part of the cooperative have access to financial benefits that are unavailable to most of Cuban society. Their earnings are higher than the unskilled workers in Cuba. The country is facing an increase of levels of obesity and diabetes.[29] Although data from Cuba is not widely available, according to research published from the National Survey on Risk Factors and Activities that Prevent Non-Transmissible Diseases in Cubans 2011 through the Havana Times, Cubans ate vegetables and fruits on average only 3.2 days a

week.[30] In comparison, interviews conducted during the course of this research suggest that people who live around this orgoponico (and others in Havana) tend to consume vegetables and fruits at least once a day.

The Brazilian and Cuban case study gardens sell their produce, and therefore have more tangible results in terms of positively changing people's diet among their communities, which leads to potential health benefits. The Brazilian case is equally very successful in producing visible and quantifiable changes in the community diet. The higher density situation (in terms of people per km^2) and the larger amount of people around makes the garden incapable of providing better results. The research suggests that the problem is not in the format nor management of the garden, but in its size. The initiative from the NGO Cidade sem Fome seems to be very successful and a larger impact on the community would simply depend on a larger garden.

CONCLUSION

The three cases presented each demonstrate benefits for the communities where they are located. In the New Zealand example, the balance between cultural engagement and food production may have affected the capacity of changing the community diet. On the other hand, it has the potential to become a social and cultural hub for the community. In terms of food production and impact on people's diet, the comparison among the cases indicates that the example from New Zealand has the worst performance of food production per area. The dimensions of the land available should allow the garden to provide a higher impact on the diet of the community. The examples from Brazil and Cuba are currently more capable of promoting changes in their communities' diets, and to be able to therefore contribute to sustainability. The investigation suggests that a focus on food production, combined with larger sized sites and productivity rates, generates better opportunities to provide fresh plant based food for surrounding communities and/or participants. This therefore has a more substantial impact on the community in terms of human health outcomes but also sustainability in terms of climate change mitigation. People associated with or nearby the Brazilian and Cuban gardens are indeed increasing their consumption of fresh vegetables.

The Brazilian and Cuban gardens aim to produce food and they are very successful in that regard, but the contribution towards increasing the liveability of a city is limited. The New Zealand garden under study has better conditions to create and develop a more livable place, with a stronger sense of community. Despite this, its small scale and lack of community participation undermine its capacity to fully flourish.

In terms of resilience, none of the initiatives are fully effective when considering their entire urban regional settings. Considering the direct vicinity, only the Vivero Alamar may work as an effective tool for increasing resilience. If considered the amount of land for food production, the Vivero Alamar provides up to seventy-five m^2 of green area per person compared with fifteen m^2 in the New Zealand study (if it develops its full potential) and only approximately 6 m^2 for the Brazilian garden (because the high density of the region)In the Brazilian and the New Zealand examples, the initiatives are isolated and cannot be considered as instruments to increase resilience and food security. Instead they must be part of a range of actions to complement their contribution. The Cuban case, as part of a larger city-wide strategy may be considered a useful example for increasing food security and resilience, however, the full assessment of the effectiveness in terms Vivero Alamar's capacity to add to Havana's resilience would require further investigation.

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BRIDGING THE GENERATION GAP – CONCRETE AND HOUSING ESTATES OF THE LATE-MODERNISM

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INRODUCTION

Political and architectural-urban debates during the last decades reflect the urgent need for changes in housing policies, due to global migration and demographic evolution. Consequently, future habitats will have to be flexible to provide for transformation, whilst allowing an identity within the urban context. At the same time, climate change and increasing consumption of land and ecological resources have an emerging demand for sustainable requirements; not only for new, but also for the ageing mass housing stock, which originated in the 1960s and 1970s.

The interest in buildings of this period has increased from the more informed, professionals, including artists and the youthful generation of the early 21st century, who have grown up with the concrete mass housing design and architectural language from the late 20th century period. These groups have an appreciation and a raised awareness of the qualities of these buildings and their value as a useful resource; against former stigmatisations which have maligned buildings of this period, most significantly, those that are made from concrete and incorporate this material into their aesthetic style.

Considering how perceptions have changed, the interventions for raising the standard of this ageing building stock could be evaluated and developed with a different focus: these buildings are already working, existing structures and have valuable living space with an individual character, and have the potential for a greater lifespan, and they need not be perceived as a burden for municipalities due to their repair and maintenance costs, which can be much less with a careful thought through plan.

The structural stability and signification of the ageing *beton brut* (raw concrete)[1] has been identified as a key element of the *Zeitgeist*, as Rayner Banham[2] pointed out, the integrity of the material is a significant limitation in considering the longevity of this building stock. Long term concepts are needed to sustain the building fabric's character as part of the collective memory over trend-interests[3]. Concurrently, investigations of interventions are needed to find specific methods of how to achieve contemporary technological standards; most specifically seeking methods of repair of the building fabric, with solutions for the adaptations of their existing material technology which has its role as signifier for the identity as *Erinnerungsraum* (Space of memory)[4]. Long term concepts of architecture technology for the materialisation are needed to persist over trend-interests and end of structural life span. Within these interventions, methods have to be achieved to provide technological durability and to transmit the specific character of collective memory. Hereby, a special focus should be placed on the architecture technology of *beton brut* (raw concrete) as key element of the *Zeitgeist*, as Rayner Banham pointed out. A special focus should be placed on the conceptual and structural use of raw concrete as operating with encrypted semantic interpretation. To allow for its translation, whilst maintaining its original interpretation within the parameters of any changes to the appearance and fabric.

The less investigated aspect of the buildings interpretation should inform and provide the foundation for opportunities for change, by outlining the significant values of the building language and its elements. Which after thorough investigation can be passed on to future users, with an understanding

of these urban living spaces, creating a lively cultural and historically grown, living environment, in contrast to anonymous characterless neighbourhoods.
By analysing the housing estates *Terrassenhaussiedlung St. Peter* in Graz (*Werkbund Graz*, 1966)[5] as an example of large scale housing Estates[6] of the 1960s and 1970s, the paper offers a discussion of the significance of the technology of concrete to articulate the spatial structure and qualities in the process of cultural identification. Due to the typological individual material-semantic and spatial structure, they apparently show the co-relation between technology and process of identification and positive appraisal of them. At the same time, by comparing the estate in Graz[7] and the less well known projects in Germany, the significance and reception of specific architectural elements will become more apparent. And finally indicate the elements which are important for understanding and upgrading this kind of housing stock, so it can become the needed living space for future generations.

St. Peter – built utopia

The *Terrassenhaussiedlung St. Peter* represents one exemplary project of this typology[8]; which is not only well-documented since its origin, but also highly valued by its inhabitants and architectural professionals and historians over its lifetime.
First of all, a closer reflection on architectural influences and architecture language of the 1970s is needed to understand the relation between the architectural approach and the used technology. Then the role of applied concrete technology will be outlined which is significant for the estate's character and appraisal as attractive urban housing.

Figure 1. "Freie Mitte" Terrassenhaussiedlung St. Peter, 2015

Concept

In the 1960s critics of the functionalist housing concepts of mass housing and "spacious city" believing it to be "de-humanising", outlined the need of change in architectural concepts[9]. Architects of this period defined large scale housing estates *(Großwohnkomplexe[10])* as an alternative. Since then their living quality has gained a positive evaluation by the inhabitants as green urban housing[11], regardless of the negative perceptions in public discussions, which have been dominated by stigmatizations of the architectural language with its use of raw concrete.[12]
Due to the character of the Terrassenhaussiedlung St. Peter as a prototype[13], it can lead the way for the investigation of the significance of raw concrete as signifier for identity and individuality for living space.

The approaches of structuralism in the 1960s and 1970s offered conceptual bases for the design process, fulfilling the intention to propose a "human scale" housing type of high density in order to provide an available alternative to single family houses. Eugen Gross[14] – architect of *Werkgruppe Graz* – confirmed the influence of structuralism on their approach for the estate St. Peter. Combining the upcoming ideas of structuralism; high density housing could be created including a high level of privacy and at the same time, community spirit due to the structuralist concept implementing different layers of infra-structure. The aspects of "methodology structuralism" were applicable in the Terrassenhaussiedlung in Graz, receiving positive feedback for the approach of participation[15] from the inhabitants, despite the immense complication of the planning process. By involving the inhabitants, architects intended to foster the identification of inhabitants with their habitat[16].

Thereby, the "in-between" areas develop, offering spaces for additional community functions. The main communicating area is the "*freie Mitte*" (free area/ centre) of the estate. This space is one of the important element for the identification of the estate: "It is one of those dominant attributes of identification which still remains enforced until today, in the significance of *Siedlung* (estate) as one of the most important housing developments in the European context." [17]

This free area in the centre of the built structure is similar to and has the same significance as the market place in European cities[18], which have developed to allow community interaction.

The importance of this element shows the lack of it in the example of the Terrassenhaus Girondelle in Bochum (Germany). Here, the interaction space – once designed as boulevard and plaza – is situated in between the several social housing projects of the master plan. Thus, they differ in their typology and materialization, not defining a common urban space. Today, the situation is even worse which impede the creation of building soft landscaping in between the housing complex, converting this important urban space in a left over.

Figure 2. Terrassenhaus Girondelle/ Bochum – 2017

The example of the *Terrassenhaus Girondelle* in Bochum reflects the importance of the materialization as linking element to define and use urban and private spaces.

In the German case study, the interaction-space was designed as boulevard, situated in between the several social housing projects of the master plan. But by differing in their materialization, the urban

space is not perceived nor defined, which the segregations of each plot is increasing. Therefore, today the ground floor area is an anonymous, not interactive space which degenerates the estates' quality[19].
The architectural language is the key element to define the link between community and private spaces of the estate, which is the bases for adaptation and usage of those areas, creating a feeling of responsibility and connection by the inhabitants.

Technology and materiality

One important aspect of concrete is its rough dominance, moreover in the 1970s when raw concrete was identified with progressive living concepts, innovative technology and "real form" as Brutalism was defending[20].
The technological articulation of the raw concrete is embodying this concept of "arch-form" because the detailing and design of its form in an untreated rough materialization puts attention on the character as load bearing element, making visible the structural elements of the primary and secondary structure of the whole structural system, which indicates the individual unit inside the community of the estate. As apparently unfinished but essential material it is the bases for transformable spaces in between this structure. Due to the fact, that "structure are open systems, taking into account changes of time" as the architect of St. Peter, Eugen Gross, points out[21].
In the estate of St. Peter, the technological configuration of the raw concrete is representing the idea of "arch-forms" as kind of framework[22], given to the inhabitants.
Projections and recesses guarantee privacy and green spaces for each unit but also for the community areas. The joints of the framework from the recesses and projections underline the definition of identifiable spaces in their entirety. The open staircases in the estate of Graz is structuring the repetition in the facades, providing orientation and permeability.[23] The technology of the material in its rough form reveals the structural and spatial concept to the user, showing the essential character of housing as space of social living, and not a trend led embellished architecture. The architecture offers the idea of social and ecologically responsible attitude, covering the needs of different settings of society and the desired individuality of life-style within a community, in contrast to the bourgeois' districts.

Figure 3. Terrassenhaussiedlung St. Peter/ Graz – 2015

In Graz, the architects also used raw concrete to outline the green environment along with the "living" of the inhabitants and achieved a kind of monotony of the architecture. Thereby a compact, dense composition is formed by the technological use of the raw concrete, representing the individual but urban living space of today's western society.

This unifying effect of concrete also supports the spirit of a neighbourhood-community[24] because it's dense form as a whole contrasts with the dispersed surrounding buildings. The recent surveys of the research project SONTE[25] are reflecting the phenomena in St. Peter till today.
These aspects fulfil the intention of creating a counterpoint to the spread out design of single family houses with private gardens, which lack community interaction and urbanity, which indicates the possibility of those estates for a long-term use.

Ageing

After forty years, the experimental construction design of the terraced houses of the Late-Modernist period provoked characteristic construction problems in their detailing. Faulty or short-lived sealing of roof top terraces; damages in draining; and cracks in concrete structure or planters; are the most representative and problematic areas of the detail in construction; and at the same time important elements create the raw undecorated appearance of the estate as a whole. The ignorance of the significance of this interrelation between methodological structure and materiality especially led these estates of this material-semantic interpretation into a situation which is seen to be problematic, where they are losing their character as cultural significant *Erinnerungsraum* and contemporary living concept. The attitude lacks the impetuous of a specific approach, to guarantee the open system for transformation and identification of the existing habitat.
This conflict is present in the Terrassenhaussiedlung, St. Peter in Graz, where the life span of materials, construction problems and the requirement for low energy improvement to fulfil the legal requirements, have forced the cooperative of the estate into specific interventions.
In debates about refurbishment of the housing stock of the 1960s and 1970s, energy driven solutions are favoured, ignoring the loss of resources and their cultural and social qualities. The impact, driven by a low energy solution only, such as external wall insulation (EWI) onto the face of the ageing concrete, are interventions which are destroying the linking element of the structural and fabric aesthetic, deleting the character, extinguishing those valuable resources, with an over simplified approach.

Figure 4. Renovated concrete in Terrassenhaussiedlung St. Peter, 2015

In the case of Graz, awareness of inhabitants and architects towards the significance of the appearance and structure for the Terrassenhaussiedlung as cultural heritage and a valued habitat, has caused

intense discussion to prove the unsuitable and disproportionate profit on energy saving through standard evaluation, compared to the loss of cultural, social and functional qualities.
As an existing building, a reduction of energy saving requirements is still allowed if no structural intervention are planned.[26] The renunciation of outside insulation shows the priorisation and appraisal of the estate's character in its materialization.
For the cracks in concrete structure, planters and sealing damages, alternative methods could not be applied. Therefore, standard renovation works were used, but with a careful and considered attitude to the renovation concept, for outlining the specific design language which emphasises the volumes more bespoke approaches were needed. For the prefabricated elements, such as planters grey varnish was used for sealing and, in partitions of in situ standard filling was executed. This approach is a sensible approach for the architectural language to remain visible, whilst there is a lack of suitable available reparation alternatives.
Reverting to a standard glazing, where previously there was concrete has lost the tactility of the concrete material depth, losing its unfinished raw character, and it therefore becomes a glossy artificial surface lacking the ability to delineate the space creating property by the qualities of concrete.
Apart from the repair methods and approaches for upgrading to fulfil legal requirements[27], the aspect of accepting ageing as a quality such as in *Gründerzeit* stock can be an interesting point to stress the character of cultural-historical habitat and durability: where the patina is seen "as an alternate kind of architectural aesthetic"[28].
Especially for the discussed large scale housing blocks (*Großwohnkomplexe*) of the Late-Modernist style. Patina can be an important aspect to stress the overall approach; patina has historical growth over the structure, which can only be produced through age. The architect Eugen Gross is pointing out[29], an intended character of the housing project is its capacity to absorb the changes of time which includes the admissibility of variations of the original without destroying it, due to the overall and significant language of raw concrete. Patina is intended to foster the sense of belonging, transmitting the community spirit as one parameter for the urban quality of European Cities[30]. Therefore, these estates provide characteristics for future sustainable housing, whilst at the same time it forms links between the past and the future: closing the generation gap.

CONCLUSIONS

Today, there is a growing appreciation of raw concrete, and its acceptance has changed positively toward its exposed concrete finish. Ungraceful, aged raw concrete, due to faulty maintenance or construction is judged as poor and "dirty"[31].
Therefore, a paradigm-shift in the evaluation of concrete-ageing is needed, which could be achieved by alternative renovation methods, outlining the character of concrete as historical and at the same time a daily used material[32]. By recognizing the potential of the interrelation of terraced house typology and architectural language of the Late-Modernist period, shows the significance of raw concrete as an element for the "moment of identification"[33] which has to be taken into account.
Highlighting this aspect; understanding the diversity and quality of the Late-modernist architecture and its language can be deconstructed, supporting professional and other inhabitants to keep these valued living spaces alive for future generations to make use of their housing qualities, which are in demand for sustainable, future housing.
From the discussed aspects of the interrelation between materialization and typology in the example of St. Peter, significant design parameters for the perception and evaluation as attractive living spaces can be named as follows: concrete structural elements and joints; with proportion of voids and massing, along with its simplicity and uniformity of secondary elements.

Then the diversity of spaces and their integration as a singular sculptural form in the urban context can be better appreciated; providing attractive individual living space in a diverse community. The elements can guide strategies for upgrading less considered estates, which also have high potential (as it is the case for example of Girondelle); at the same time offering identity of further and new generations for their *Erinnerungsraum* in the sense of the existing built legacy.

Figure 5. Terrassenhaus Girondelle/ Bochum – 2017

The results would allow a lively cultural and historically grown living environment to remain; in contrast with artificial neighbourhoods without community which have not achieved a historical spirit, which currently rests in these concrete terraced homes.

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Figure 1-5: private archive, *Terrassenhaussiedlung St. Peter* © by Marisol Vidal Martínez; *Girondelle* © by the author.

[1] The term *beton brut* was created by Le Corbusier, which means the untreated concrete after the shuttering is removed. The colour can be changed by mixing different cements in the composition. Raw is marked by the formwork which is used; not painted. It can be pre cast or in situ concrete structure either column or beams which are untreated.

[2] The meaning of "New Brutalism" was defined by Reyner Banham and explained in detail in: Banham, Reyner, *The New Brutalism: Ethic or Aestethic? (*Princeton: Architectural Press, 1966).

[3] Meier/ Scheurmann, *Die Sprache der Objekte*, 269-270.

[4] Adrian Forty describes the revival of raw concrete in new construction in Adrian Forty, Concrete and culture: a material history (London: Reaktion Books, 2012) 279. The change of aesthetics for the architectural language of Brutalism and its influence from value change is described in detail in Ingrid Scheurmann "Denkmal, Erinnerungsort, Location oder was?," in Welche Denkmale welcher Moderne? (Berlin: jovis Verlag, 2017) 62-81.

[5] Eva Guttmann and Gabriele Kaiser (ed.), *Werkgruppe Graz 1959 - 1989: architecture at the turn of late modernism*, (Graz/ Zürich: Haus der Architektur/ Park Books, 2013), 106-117.

[6] This kind of estate differs from the mass housing concepts and hith rise towers because it is designe as a urban community. In Britain Terraced Housing is a traditional typology, - homogenised in the Georgian period. In this paper it means a specific typo of high-rise block model as multi layered terraces, more often referred to as housing blocks. In other Germany of the 1960s and 1970s it is named as "terraced housing estates" (*Terrassenhaussiedlung*), defining this approach of housing.

[7] The *Terrassenhaussiedlung St. Peter* is one of the most valued in Austria and reference for urban dense housing concepts for the future; for further information see expositions, press and literature are reflecting this over the years; for example in Graz see websites: (https://derstandard.at/1289608735791/Wohnmodelle-in-Graz; https://hda-graz.at/programm/architektur-als-partitur-werkgruppe-graz-1959-bis-1989)

[8] Similar to the project of Camden Council's housing by Neave Brown, at "Alexandra Road Estate" in London.

[9] See for example critics by Jane Jacobs, 1961 and Alexander Mitscherlich, 1965.

[10] The definition is described in Karen Beckmann, *Urbanität durch Dichte? Geschichte und Gegenwart der Großwohnkomplexe der 1970er Jahre* (Bielefeld: transcript Verlag, 2015), 239.
[11] See report in N.N., "Graz St. Peter: Die 'durchforschte' Terrassenhaus-Siedlung," *Wohnbau 5* (1981): 8; also interview results of ongoing research project SONTE 2016-2018.
[12] Beckmann, *Urbanität,* 428.
[13] N.N., "Graz St. Peter: Die 'durchforschte' Terrassenhaus-Siedlung," *Wohnbau 5* (1981): 4.
[14] Eugen Gross is still living in the estate; he also works as independent architect in Austria. See Eva Guttmann and Gabriele Kaiser (ed.). *Werkgruppe Graz 1959 - 1989: architecture at the turn of late modernism* (Graz, Zürich: Haus der Architektur/ Park Books, 2013), 304-305.
[15] In this concept the changing architectural mind-set of the 1970s is shown, when legal residential communities are favouring the participation in the planning and construction process.
[16] Arnulf Lüchinger, *Strukturalismus in Architektur und Städtebau* (Stuttgart: Krämer, 1981), 63-64.
[17] Eugen Gross, "Wie beeinflusste der Strukturalismus die ‚Grazer Schule' der Architektur?," in *Was bleibt von der "Grazer Schule"? Architektur-Utopien seit den 1960ern revisited* (Berlin: Jovis Verlag, 2012), 219.
[18] Dietrich Hassenpflug, *Die europäische Stadt - Mythos und Wirklichkeit* (Münster: LIT, 2000), 16.
[19] The estate and problems is discussed in Claudia Volberg, "Ein Besuch in der Girondelle 84-90", moderneRegional (2017), accessed December 20, 2017. http://www.moderne-regional.de/ein-besuch-in-der-girondelle-84-90/
[20] Karen Beckmann, *Urbanität durch Dichte?: Geschichte und Gegenwart der Großwohnkomplexe der 1970er Jahre* (Bielefeld: transcript Verlag, 2015), 49.
[21] Gross, *Strukturalismus*, 218-219.
[22] Lüchinger, *Strukturalismus in Architektur*, 66.
[23] According to the concepts of structuralism to articulate "the building block into smaller units that are humanly comprehensible." And "aesthetic of numbers" in Arnulf Lüchinger, *Strukturalismus in Architektur und Städtebau* (Stuttgart: Krämer, 1981), 66
[24] See the Interviews of the generation of Halen Children in: Wiesmann-Baquero, Nancy, *Die Kinder der Siedlung Halen – Lebenserfahrungen mit Architektur und Städtebau* (Bern: Simowa Verlag, 2005), which reflect this dependence between architecture, social attitude and living concept.
[25] The research project is still running; first results were presented to the inhabitants during August 2017; see: "Smarte Modernisierung Terrassenhaussiedlung Graz – SONTE," *Smart-Cities – Intelligente Städte in Europa*, accessed September 01, 2017, http://www.smartcities.at/stadt-projekte/smart-cities/smarte-modernisierung-terrassenhaussiedlung-graz/
[26] The energetic standard of new housing is not applied for existing housing till no structural interventions are planned. But discussions in the group of inhabitants show the controversial of permitted and suggested, due to energy costs and the lobbying of the insulation industry; further information see SONTE survey.
[27] In St. Peter/ Graz, concrete-coloured varnish is used for the sealing of damaged prefabricated concrete. Apart from the unnatural perception of the concrete, this method stands for economical and maintenance efficiency, but as restaurateurs like Rochus Michnia are pointing out, this standard method is costly in terms of long time maintenance. Specific and professional renovation and reparation for reinforced concrete are more expensive in the beginning but providing traceable and less intensive and therefore economical maintenances. Other approaches for reuse and transformation of building of the Late-Modernism are presented for example by Peter Kroos, "Individuell in der Masse," in *Auf den zweiten Blick* (Berlin: transcript Verlag, 2010) 91-92 und 252-253.
[28] Stephen Cairns and Jane M. Jacobs, *Buildings must die: a perverse view of architecture* (Cambridge, Mass [u.a.]: MIT Press, 2014), 86.
[29] Gross, *Strukturalismus,* 219.
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[31] Stephen Cairns and Jane M. Jacobs, *Buildings must die: a perverse view of architecture* (Cambridge, Mass [u.a.]: MIT Press, 2014), 75-76.
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PROJECT MANAGEMENT AND SKILLS ENHANCEMENT IN INFORMAL SETTLEMENT UPGRADING IN DURBAN, SOUTH AFRICA

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INTRODUCTION

In South Africa (SA), around 50% of the population lives in urban centres, where more than 2,700 informal settlements exist. Due to rapid urbanisation and population growth, informal settlements have formed a major challenge of the urban landscape, exacerbating issues related to poverty, inadequate infrastructure, housing and poor living conditions. Reflections on past upgrading efforts in SA suggest that top-down policies have not been successful to date. By contrast, participatory techniques in the design and construction of housing, have been used to enhance community empowerment and a sense of local ownership. However, participation and collaboration can mean various things for informal housing upgrading and often the involvement of local communities is limited to providing feedback in already agreed development decisions from local authorities and construction companies.

This paper explores the concept of 'self-building' in the context of community-led upgrading, using experience and lessons learned from two case studies in the Durban metropolitan area, SA. The research seeks to identify critical success factors in managing self-build upgrading projects, discussing the crucial roles of stakeholder management and project governance. It also seeks to understand the balance between formal and informal forms of procurement, uncovering the challenge to acquire 'the right resources at the right time', exploring links with local industry and/or construction practice and considering the constraints involved in the process of complying with rigid municipality processes. The findings seek to build capacity for both local communities seeking to improve their quality of life and for local authorities seeking to enhance their upgrading planning programmes, plans and policies.

BACKGROUND CONTEXT

Almost 50% of the South African population lives in urban centres and a quarter of those live in informal settlements.[1] Housing has been a key challenge for the post-apartheid period in SA, with the commitment to provide access to adequate housing for all. [2] Migration and poverty are major causes of informal settlements, as dwellers cannot afford to build or buy their own houses or to access formal housing schemes.[3,4] Misselhorn [1] emphasises that *"it is important to analyse why informal settlements exist and what functionality they afford to those who reside in them".*

According to 2011 Census, 12% of all households in the Durban metropolitan area (eThekwini) live in informal settlements, with 29% renting their dwellings. [5] eThekwini's urbanisation has over time incorporated low density urban settlements and adjoining farmlands. This structure has been influenced

by an extreme topography; the city centre is fragmented and economic opportunities are spatially segregated from formal housing and residential spaces.[6] Post-Apartheid consequences have therefore led to spatial inequalities, social segregation and various housing typologies.[7,8] These include high-density residential developments, such as inner-city flats in abandoned buildings, private rental housing schemes in informal settlements and social housing schemes. There are also subsidised houses in urban townships, informal backyard shacks adjacent to formal housing on both public- and privately-owned land, and rural housing dwellings. Some of the negative consequences of spatial fragmentation and low-density include an inefficient public transport system with high transport costs per low-income household, inefficient infrastructure and overall environmental pollution.

Definitions

Informal settlements are defined by physical, social and legal characteristics; hence, it becomes difficult to define the term 'adequate' housing in the Durban context.[5] Many scholars emphasise the dwelling type (shacks with poor performing building materials), whilst others refer to the issue of land tenure.[9] In SA, a clear departure from the Apartheid terminology included the term 'slum' being replaced by 'informal settlements.[10] Informal settlements are related mostly to the legal standing of the scheme; namely, settlements that mushroom on vacant land, within and around places of opportunities, without proper planning, building regulations or standard construction methods.[11]

Informal settlements have been traditionally considered as 'urban substandard' offering housing to the urban poor and referring to the poor living conditions, health risks and environmental hazards.[12] However, Roy [13] suggests a progressive interpretation of informal settlements as spaces of habitation, livelihood, self-organisation and politics. Informal settlements are complex, popular and spontaneous neighbourhoods[10] offering an immediate response to housing and with their location critical for the socio-economic activities of the involved community. This concept moves away from the pathology of informal settlements, envisaging a potential in terms of dynamic places of living.

Upgrading models

Physical upgrading of informal settlements takes two general approaches: demolition and relocation or *in-situ* development.[14] Demolition and relocation is the process of moving inhabitants from their settlements to another 'greenfield' site. However, a growing body of literature favours *in-situ* upgrading as this involves the formalisation of informal settlements in their original location.[14, 15, 16] One of the main critiques of demolition and relocation is the macro-economic target of the government to meet the physical aspects of housing shortage and infrastructure provision and not the improvement of poor living conditions. This has led to conflicts and significant socio-economic disruption with little regard to displacement, poverty, vulnerability and the impact of these actions on social inclusion. *In-situ* upgrading is the process undertaken to improve the conditions of an informal settlement in its current location through the provision of basic services and secure tenure to people. *In-situ* models can be wide-ranging, from simply dealing with land tenure to incremental housing improvement and/or the provision of site-and-services associated with formal settlements.

In SA, the post-apartheid period offered various top-down approaches to low-cost housing provision. Government authorities have been responsible for decision-making on behalf of the local inhabitants. Top-down models have been criticised as unsustainable in the sense that they continue the legacy of segregation in housing delivery, as they have not engaged directly with low-income communities, and have not understood in depth the social capital required and the nature of the vulnerabilities of the affected populations.[10]

COMMUNITY PARTICIPATION

Community participation can *"be thought of as an instrument of empowerment"*.[17] There is a growing body of literature which encourages participatory techniques, as a key method to enhance a sense of local ownership within an upgrading project.[18, 19, 20, 21, 22] Self-reliance is also a relevant term associated with community participation and self-help activities. It refers to communities defining and making their own choices through shared knowledge, skills enhancement and planning activism. However, even though 'bottom-up', participatory methods for community upgrading are often discussed theoretically in international development discourses, the tools, methodologies and processes needed to ensure a successful upgrade on the ground have not seen widespread dissemination or uptake, particularly in the Durban metropolitan area.

Self-help housing involves practices in which low-income groups resolve their housing needs mainly through their own resources in terms of labour and finance topping up government subsidies.[23] Self-help activities are interrelated to community self-reliance and are not new to SA, as since the 1950s incremental, step-by-step, self-building approach on serviced sites was considered the cheapest and most efficient solution to slum upgrading.[24] Community participation derives from self-help activities and refers to grassroots planning processes where the local populations decide themselves about the future of their own settlement.[25] In practice, however, community participation often remains *"formal, legalised and politicised"*. [26] In informal settlements, key conceptual and practical challenges hinder active community participation. These include lack of social and physical resources, as well as, conflicting interests in individual and community expectations from the involvement in development projects. [27] Muchadenyika [28] discusses the problematic relationship between local communities and local authorities and governments, whereby issues of legislation, politics, power and identity play a major role in resource management, distribution and implementation of the upgrading project.

COMMUNITY-LED UPGRADING IN THE DURBAN METROPOLITAN AREA

Fieldwork in two case studies was conducted between February 2017 and May 2017 to assess the level of 'good available practice' in community-led upgrading of informal settlements in Durban metropolitan area. The case study selection criteria involved community leadership, presence of an active support organisation, community self-organisation practices (e.g. saving groups), good documentation of historical development and upgrading models used in the past. Empirical data was gathered by means of focus group discussions in two case study sites complemented with three additional focus groups with external stakeholders from eThekwini municipality and the construction industry in Durban. The objective was to examine community-led approaches in informal settlement upgrading in Durban and understand the benefits and challenges of inclusive participatory approaches to the project management, the design and construction of the houses.

Self-build houses in Namibia Stop 8

The first case study refers to Phase 1 of an informal settlement called Namibia Stop 8 (NS8) based in Inanda, an outskirt of Durban in the KwaZulu-Natal province. Namibia Stop 8 has been a greenfield project, where uTshani Fund, partner of the SA Slum/ Shack Dwellers International (SDI) Alliance and support organisation provided the finance facilities to the Federation of the Urban and Rural Poor (FEDUP), who led the provision of self-build housing.

At a project preparation stage, the community undertook detailed profiling. Three women-led saving groups established an 'Urban Poor Fund' to finance the delivery of housing. The project involved 96 houses using the participatory People's Housing Process model that is predicated on a community-

driven participatory approach. FEDUP construction was slower but this collaborative approach delivered substantially larger (56m^2), better-designed and better-sized houses than those constructed under the government-driven Reconstruction and Development Programme (RDP) model (40m^2). In terms of building materials and construction techniques the FEDUP houses demonstrate concrete blocks, wooden roof trussing, tiles, plastering inside and out and floor screeding. For example, FEDUP houses have bigger wooden windows, whilst RDP houses had no plastering and required private waterproof paint on walls and doors for rain protection.

Figure 1. An example of a self-build house (with extensions) in Namibia Stop 8

As a community leader stated *"the majority of people continued to live in the houses after the upgrading, while the comparative figures for the municipality houses are about 50%. This is because paying someone to do it is more expensive than doing it yourself"*. The construction method entails delivery by community contractors and the establishment of construction management teams (CCMTs), supervised by uTshani Fund and approved professional contractors, who ensured technical support. In terms of procurement, CCMTs and uTshani Fund compared three hardware stores and chose a supplier based on a cost-benefit assessment of quality and cost. This means that communities developed an understanding that state procurement is often expensive and of less quality.

However, lessons learned included the lack of wider community trust. Building materials were stolen during the construction process, particularly single units, such as doors and windows. Another key challenge was the issue of access to the main road and lack of spatial integration. Households developed a culture of fencing their yards due to the lack of pathways, thus hindering community development. In terms of construction, technical support would enable a better redesign of the roof and therefore save resources (e.g. timber) that could be used elsewhere. The community emphasised the need for training or hiring skilled workers for future upgrading projects. Lastly, it was noted that the Youth was not engaged in group savings post project completion. This inevitably meant that the knowledge and skills that CCMTs developed was lost.

Project management in Piesang River

Piesang River is a historic informal settlement, similar to Ns8, which pioneered strong elements of community leadership and negotiation with the SA government around housing delivery. In particular, uTshani Fund enabled FEDUP to support housing construction through a process of pre-financing (bridging finance) by making a loan to assist 'sweat equity' (time and labour) allowing beneficiaries to

repay the loan at a later stage. Thereafter, the community undertook the actual construction of the houses.

A Steering Committee was established dividing semi-skilled inhabitants into seven groups of four to ten members, each according to their specific skills; namely:

- technical (design and construction): bricklaying, foundation, plumbing.
- management: supporting labour, finance (book keeping), quantity surveying and costing; and
- social facilitation: mobilisation, negotiation and communication around a 'shared' vision.

Figure 2. The upgrading process in Piesang River

Piesang River demonstrates also women in project management and the construction of the houses. FEDUP brought skilled builders on-site for assistance and on-site training to the individual groups. This facilitated formal skills transferring to the community. In contrast to NS8, FEDUP members engaged in training youth groups and managed to pass on the culture of savings to the next generation.

In terms of the construction method and selection of building materials, houses are quite similar to NS8. FEDUP community leaders commented that criteria for the procurement strategy included quality, durability, cost (affordability), and safety. Piesang River features also double storey buildings even though their construction was not successful. A community member mentioned that accepting customs and culture in the upgrading process is key. *"People prefer to live in their own houses and the double storey construction caused issues with older and disabled people"*. Another challenge was the need of additional reinforcing metal to support the structure, which increased total costs in addition to a suspended concrete floor.

A new approach to informal settlement upgrading

Current estimates in eThekwini municipality indicate that there are about 327,615 households in 476 informal settlements, without any clear plans for upgrading or signs of a a participatory process.[29] An innovative participatory action planning approach is proposed by the Housing Development Agency and has been endorsed during the focus group discussions with external stakeholders. This is because full upgrading with services and subsidised housing is not a viable option for SA in general, and Durban metropolitan area, in particular. This approach also underpins that the challenge to upgarding is not just housing but a manifestation of structural social change and political endurance. In this context, key principles of the *new approach* to informal settlement upgrading involve [30]:

- *city wide*: inclusive of all the informal settlements;
- *incremental*: with a range of different improvement as opposed to the traditional housing delivery;
- *in-situ:* considering relocation as a last resort;
- *partnership-based*: instead of purely state-service oriented);
- *participatory and more community driven*: collaborative informal settlement action, co-management to develop acceptable solutions;

- *programmatic and area-based*: instead of project delivery focused;
- *context related:* differentiated, situationally responsive (as opposed to the 'one-size-fits-all'); and
- *statutory and regulatory flexible*: working with and not against informality.

CONCLUDING REMARKS

eThekwini municipality has currently ambitious targets to achieve due an increasing backlog on housing delivery. Focus group participants claimed that there are currently about 535 informal settlements, which translate to 25% of population in the KwaZulu-Natal province. Most informal settlements are upgradeable and are already part of the urban form. The government perspective on informal settlement demographics and policy suggests that conventional upgrading (i.e. state funded housing with a full package of services) with tenure security and formal town planning is an unviable solution due to: the increasing backlog; cost; complex land schemes; higher density; and long-time scales. This is why an incremental, city-wide, partnership-based participatory upgrading approach is proposed with lessons learned from communities that have undertaken (even partially) aspects of community-led upgrading.

Both Namibia Stop 8 and Piesang River pioneered strong elements of community leadership due to a set of participatory methods embedded in project preparation and project implementation. These include: community profiling and enumerations, saving groups, community-driven project management, 'sweat equity' (time and labour) of beneficiaries. The above processes created a legacy for the local people in terms of income generation, skills upgrade, and sense of ownership since the early planning stages. A key success factor has to do with skills enhancement and 'learning by doing'. Continuous improvement enabled community organisations (e.g. FEDUP) to ensure less costs and better quality in the construction of the houses.

Finally, it is important to note that the level of a successful upgrading project is measured differently between local authorities and communities. For eThekwini municipality, it refers mainly to successful delivery of infrastructure and services. Empirical data from the two communities, instead, reveal that a successful project is about full ownership of the upgrading, social cohesion, livelihood development and tenure security (ultimately by obtaining the title deeds). This means that upgrading is not just housing delivery but consideration and development of social fabric, such as access to job opportunities, health facilities, schools, and public transport. eThekwini municipality has practiced limited community led approaches and currently acts as a housing developer. It is therefore essential to build capacity and invest in further training in both communities and local authorities by understanding the minimum preconditions that unlock community participation in an upgrading project.

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HOME OUTSIDE THE BOUNDARIES: THE EXPERIENCE OF TRANSITION SPACE IN RESIDENTIAL ENVIRONMENTS

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INTRODUCTION

This paper addresses the sociological and psychological dimensions implied in residents' perception of transition space between integrated into their experience of transition the inside and the outside of dwelling places. The aim here is to revisit the meaning of transition space following the reductionist tradition of modern architecture. In this context, transition space is acknowledged as the spatial structure integrated within the experience of residential environments. This paper adopts Serfaty's assumption that the dwelling place is a whole made of sub-divisions (such as the kitchen, the living room, and the bedroom)[1], and expands upon this by incorporating transition spaces within the wider urban premise of the residential environment; i.e. the dwelling approach, front, and back entrances. Transition space from this point of view represents an element within the whole structure of the residential environment.

A phenomenological lens is utilized to examine the intangible interrelationship between the spatial domain of transition and the experience of transition between the inside and the outside. In this respect, transition space encompasses both psychological and sociological dimensions governing individual experiences taking into account the effect of territorial limits or boundaries. Also examined ontological issues and epistemological positions raised in reference to former investigations on transition spaces with an emphasis on the contribution of the phenomenological approach in investigating transition spaces as a whole structure of interrelated experiences within the spatial domain. The structural nature of transition spaces is discussed in relation to the complexity of residential environments; its inner structure of spaces within which activities occur. The paper also highlights universal dimensions of the individuals' experiences in relationship to the experience of transition in addition to variable psychological and socio-logical dimensions experienced within.

The Meaning of Transition Space

The literature acknowledges the spatial realm of transition spaces as outdoor spaces represented in spaces surrounding the dwelling unit, and indoor spaces represented in entrances halls of dwelling units[2] [3]. Transition spaces in this context are based upon residents' perception of the experience of transition. Highlighting experiential dimensions underlying these perceptions, hence, represents a cornerstone in the process of understanding the structure of meaning within transition spaces.

In the outdoor realm, socio-psychological dimensions are discussed in relevance to two aspects influencing residents' experiences; visual exposure, and the nature of judicial boundaries. Visual exposure of the outdoor realm highlights different modes of communication between residents and the surrounding community. On the socio-psychological level, non-verbal communication is emphasized through connotations for the dialectic of identity and communality in different cultural contexts, with focus on an empirical application within the context of American dwelling units[4]. Similarly, Barbara et al. [5]reveal the influence of visual exposure of the door of the dwelling place on the expression of

residents' openness and intention for communication with the community. Likewise, the door of the English house is indicated to represent a sign for residents' social status[6]

On the other hand, judicial boundaries influence the perception of the meaning of transition spaces within the outdoor realm of the dwelling place. According to Lawrence, The difference in meanings underlying residents' perception of the outdoor realm surrounding their dwelling places, was evident among residents who shared foreyards with neighbors when compared to those who had private ones[7]. This example highlights that transition spaces do not merely represent a spatial realm in its absolute form but suggests that habitation and sharing of space have an effect upon the perception of transition space. Furthermore, it indicates contextual and territorial dimensions influencing residents' experiences.

In contrast, the indoor domain of the transition experience is associated with the process of setting personal norms prior to the experience of the inside of the dwelling space[8]. Consequently, indoor transition spaces play a role in the process of regulating the shift between social interaction with outsiders on one hand, and the contrasting state of control of privacy and the development of a sense of autonomy - emphasized by Dovey[9] and Altman[10] - on the other. Likewise, Lawrence et al.[11] interpreted residents' perception for entrance halls of their dwelling places as means for regulating their privacy and exposure of their intimate spaces to visitors. Nevertheless, the experience of the indoor realm encompasses cultural dimensions governing residents' perception of the contrast between their experience of the outside[12] and the inside[13] of the dwelling place. From an experiential perspective, these cultural connotations are acknowledged through their integration within the experience rather than the shared notions of their socio-cultural meanings[14].

It is noticeable that outdoor and indoor realms were addressed as separate entities. However, acknowledging transition space through their integration in residents' experiences of the journey between the outside and the inside of their dwelling places implies taking into consideration the notion of transition spaces as a *structure*. Form this viewpoint, it is likely to highlight the role of visual exposure in the relationship between both realms. In spite of the interrelation of activities performed during the journey between the inside and the outside of the dwelling places[15], the nature of the spatial interrelation between the outdoor and the indoor realms incorporated within individuals' experiences, are seen to be addressed in isolation rather than combined. Thereby, a whole picture of the transition experience would not be fully envisioned.

On the level of epistemological positions in investigating transition spaces, there is a consensus on integrating sociological and psychological dimensions when investigating transition spaces. An integrative perspective has been discussed by Gurney[16] on the theoretical level through the emphasis of relating individual perception with the collective acknowledgment of the surrounding context of residential environments. This point of view is further advocated by Somerville[17]. However, incompatibility between the subjective account of individuals' experiences and the objective acknowledgment of sociological and contextual dimensions, remains an unresolved theoretical issue. Investigating transition spaces in this respect has a particular reflection upon this discourse due to their socio-psychological structure. From an experiential point of view, it is postulated that it is inevitable to reveal the experience of transition between the inside and the outside of the dwelling place without taking into account the contextual forces of place (i.e. political, sociological, economical, ..etc.[18]) in the outside and the inside realms of the dwelling place.

By means of a phenomenological approach, residents' perceptions of their experiences of transition, incorporates their subjective perception of the surrounding contextual forces within both the outside and the inside realms. However, the subjectivity of individuals' perception represents a limitation when attempting to draw generalized interpretations. Alternatively, Depres[19] and Somerville[20] discussed a 'hetero-phenomenological' approach for eliciting subjective phenomenological accounts with respect to objective contextual dimensions. Accordingly, in spite of the theoretical limitations of a phenomenological approach implied in revealing a subjective account of transition spaces, this approach represents the first step in building a collective notion of the space integrated within the experience of transition.

Transition spaces and Complexity in Progressive Residential Environments

Complexity in the built environment is addressed in opposition to simplicity and reductionism of modern architecture[21] [22]. According to Van Eyck, complexity is associated with the coherence of the spatial structure of the built environment as one whole[23]. He explained the experience of contradictions through the concept of twin phenomena in which the outside and the inside of the built environment are upheld together forming a coherent structure rather than experienced in isolation from one another[24]. In this context, transition spaces play an essential role in upholding the wholeness of the experience of residential environments.

From such perspective, it is worth relating the quality of complexity with the timely discourse of flexibility in the development of progressive residential environments. Flexibility has been associated with variations and changes in the way individuals' experience their dwelling places. Correspondingly, taking into consideration flexibility in creating the spatial structure discussed by Till and Schneider[25], provides an opportunity for residents to manipulate the spatial structure within their dwelling places in relevance to personal and socio-cultural needs. It is noticeable that the development of the concept of flexibility of residential environments focused on the flexibility of the inside of the dwelling places[26]. However, achieving flexibility in shaping transition spaces, in particular, has not been the centre of attention.

In reference to Lawrence's[27] urge for the collaboration between architects and planners for integrating human dimensions (implying socio-cultural and psychological dimensions) within transition spaces, taking the aspect of flexibility into consideration involves residents in shaping the nature of coherence between the dwelling units and the surrounding residential environments. From this point, it is essential to revisit proposed models for achieving flexibility[28] in reference to the nature of residents' experience of transition spaces.

Polarities in the Experience of Transition

Polarities are dominating pillars of man's experiences. According to Tuan, human beings tend to construct their experiences according to polar oppositions. In the context of the experience of residential environments, the opposition between inside and the outside of the place of dwelling represent a prominent aspect[29]. This contrast is associated with sets of oppositions revealed on each of the socio-cultural and psychological levels[30] [31]

Drawing upon Schultz's[32] the explanation for the phenomena of the interface between experiences, spaces integrated into experience of transition represent the spatial zone where the interface between the psychological and socio-cultural fields of the experience of the outside public space and inside-ness of the dwelling place occurs. Nevertheless, individuals' perception for the journey between the inside and the outside of dwelling places imply their way in constructing the meaning of interface between both contrasting experiences[33].

Discussions for the interface between the inside and the outside on the level of built environments highlighted the multivalence of this interface. In such regards, Van Eyck proposed the interface between opposing experiences by creating the experience of the inside-ness of architectural spaces within urban spaces 'in between' built forms[34]. Likewise, Venturi[35]discussed the interface between the inside and the outside of the built environment on the level of the relationship between architectural form and the urban space on one level. In addition, he discussed the interface on the level of the details of the outer skin. Similarly, in the domain of residential environments, Jurgenhake[36] investigated the concept of layering in regulating the interface between the public space and privacy of the home. Multivalent forms of the interface illuminate the fact that the journey between the inside and the outside of the dwelling place, represents one facet of the interface between the architectural space and the urban space. However, it is important to highlight the experiential differences between the nature of transition space and that of 'in-between' urban spaces proposed by Van Eyck. The former is dominated by the relationship between an intention and a goal directing residents' activities during the

journey between the inside and the outside of their dwelling places. On the other hand, the latter is envisioned by Van Eyck as a field for the experience of social interaction within the outside realm.

The Inner structure of transition spaces

While the experience of transition represents an element within the structure of the experience of residential environments, on one hand, the experience of transition enfolds an inner structure that constructs this experience. Alexander et al.[37] demonstrated an example for deliberate analysis for Inner subdivisions associated with the events of approaching and departing the dwelling place. For example, the experience of arriving at the dwelling place is associated with anticipation for the experience of the inside-ness of the dwelling place. This experience is assimilated in routine activities such as shelter from the weather while finding keys and sheltering prams and bikes at the porch or visual contact with people inside through a window. Following that, conventional actions taking place at the entrance hall such as eliminating formality of their appearance connotes a process of regulation for meanings governing the contrasting experience of the inside and that of the outside[38] [39]. Nevertheless, the difference between individuals' intentions and goals on arriving and leaving the dwelling place implies differences in the nature and the structure of performed activities that take place in both events.

The interrelationship between these routine activities form the coherent structure for the experience of transition. In spite of socio-cultural connotations of these activities discussed in this section, demonstrations for these activities as a coherent whole in the literature[40], did not incorporate socio-cultural variations influencing the form of their structure.

The experience of Transition

Towards exploring human dimensions of transition space, a phenomenological perspective contributes to understanding transition space as lived space rather than absolute space. Martine[41] defined absolute spaces as the space identified through measured physical and geometrical characteristics. Similarly, Lefebvre provided a definition for absolute space as space acknowledged through its physical characteristics prior the process of socialization of space. In contrast, lived space is a product of the experience of a state of the interrelation between man and place[42].

From such view point, body-space experience as a salient aspect of the experience of transition space may have an impact on revealing experiential dimensions of transition space. During the routine journey between the place of dwelling and the outside world, individuals' perceive their relationship between body and space in relevance to three archetypical structures[43].

First, the position of the body within space in relevance to the oppositions between front/back, right / left and up and down[44]. Second, individuals' perception of motor activities performed during the experience of transition such as walking sitting etc.[45]. Finally, the perception of body position in relevance to the cosmological structure of the world around horizontal and vertical axes representing axes of life and metaphysical dimensions respectively [46] [47].

Moreover, experiences are not limited to universal dimensions of the experience of body and place. Individuals' perception of their experiences represent a state of the interrelation between self, body and place[48]. In contrast to universal experiential dimensions, individuals' perception of the experience of transition between the outside and the inside of the dwelling place, represents subjective psychological and socio-cultural dimensions.

Exploring the nature of space integrated within transition experience draws attention towards residents' iterative process of appropriation[49] [50]. Transactions between the self and space may allow understanding of the way characteristics of the spatial structure influence transition experiences. These characteristics include architectural elements such as stairs, ramps, porches, and fences, in addition to the spatial configuration integrated into the transition between the public realm and the interior spaces, and spatial enclosures whether spaces are outdoor or indoor spaces. In addition, the process of appropriation highlighted the difference between experience of transition space in relevance to its location within the dwelling unit (front and back entrances)[51]. The process of appropriation is a significant aspect of the experience of residential environments. The notion of residents' intention for making their dwelling place a home is acknowledged when appropriations represent residents' appropriation for meanings of their experiences[52].

Architects and Planners role in Shaping Transition Spaces in Residential Environments

From this respect, the quality of complexity in residential environments appeared in an inconsistent form. Although Lawrence addressed contrast of interpretations for residents' perception for entrance halls with the neglect of transition spaces within residential environments in the present time[53], situations of acute housing shortage also indicated inconsistency in integrating transition spaces within dwelling models emerging during these situations. For example, in the UK in spite of the importance of entrance spaces within the structure of the house, housing shortage accompanied industrial revolution was associated with the disappearance of transition spaces within some housing models[54]. These situations bring forth the inquiry about contextual forces influencing architects' and planners' decisions in integrating transition spaces –and accordingly complexity- in dwelling models. In addition, housing models with a direct spatial relationship between street and living spaces draw attention towards the way residents appropriate their dwelling places for integrating multivalent psychological and socio-cultural dimensions of their journey between the inside and the outside realms.

CONCLUSION

Salient ontological and epistemological dimensions and gaps in addressing transition spaces in the literature are highlighted. Important features of experiential dimensions of transition spaces are also discussed.

On the ontological level, the separation between the inside and the outside realms of the experience of transition is noticeable. Accordingly, there is a gap in addressing transition spaces through their integration within the journey between the inside and the outside of the dwelling place. In addition, socio-psychological dimensions were commonly explored within residents' experiences of both realms. Nevertheless, these dimensions were rarely related to contextual forces.

Furthermore, discussion of transition spaces as a whole structure of interrelated activities[55] draws attention towards the need for revealing sociological and psychological dimensions governing these structures.

On the epistemological level of investigation, investigating transition spaces highlighted the importance of understanding individuals' experiences in relation to their surrounding contextual forces. In such regards, a phenomenological approach makes it possible to reveal interrelation of residents' experience of transition spaces in relationship to their perception of the contrasting experiences of the outside and the inside of the dwelling place. However, the subjectivity of the phenomenological approach is a limitation in providing a generalized understanding of the nature of transition spaces.

A phenomenological lens utilized in investigating transition spaces contribute to the understanding of the experience of transition space by highlighting their structural nature. On one level, it addresses the structural nature of transition spaces through their position within the wholeness of residential environments. On the other level, it reveals the inner structure implied within transition spaces themselves. A phenomenological approach provides the opportunity for revisiting universal structures for the relationship between body and space within the context of the experience of transition between the inside and the outside of the dwelling place.

Furthermore, revisiting the concept of complexity in relation to the nature of transition spaces highlighted the role of transition spaces in upholding wholeness of the experience of residential environments. Finally, revealing experiential dimensions reflects upon the architects and planners' approach in developing progressive residential environments by introducing models for flexibility which are suitable for the nature of transition spaces.

In reference to the inconsistency of architects and planners approach incorporating transition spaces into residential environments, further investigations are needed in order to reveal forces and reasons underlying their approaches in dealing with transition spaces.

In general, envisioning transition spaces in their structural form comes in line assumption proposed in the paper that considers transition spaces as a subdivision within residential environments. Accordingly, drawing upon calls for integrating human dimensions in the development of residential environments in order to enhance residents emotional bonding with the places where they live[56] [57]reflects upon the need for new directions in envisioning transition spaces as lived spaces rather than their notion in their absolute physical form.

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Cities, Communities and Homes: Is the Urban Future Livable?
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FUTURE BOOM STREET, PRETORIA SOUTH AFRICA: THE SPACE BETWEEN THE TEMPORAL AND THE PERMANENT

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INTRODUCTION

The paper is based on a case study of Boom Street in the capital city of Pretoria, South Africa. It is presented from the perspective of an African city in the Global South. Running on an East -West axis in the inner city of Pretoria, Boom Street connects the historical Marabastad in the west with the bottom slopes of Meintjieskop in the east. The connection signifies a physical and metaphysical link between the *haves* and *have-nots* of South Africa.

Marabastad was first surveyed in 1888 as a temporary settlement for migrant non-white workers, while Meintjieskop is the site on which the Union Buildings of South Africa were carefully placed in 1910 by a white minority government. Today, this important historical axis has almost disappeared in the urban fabric and predominant motor ways.

The current street activities along Boom Street represent the unique coming together of different cultural identities. Existing and migrant communities are inhabiting the street on both a permanent and temporary basis. The result is a complex conglomeration of communities at the juxtaposition of different grains of urban fabric.

The notions of contracts and connections stand central to the cultural history of Marabastad, and these concepts are touched upon in this paper. Marabastad was originally established as one of the non-white labour camps of Pretoria. Between the 1940's and 1970's, the inhabitants of Marabastad were forcibly relocated to single-race townships further away from the city centre. These forced removals were the result of Apartheid laws like the Group Areas Act. In Marabastad some of the built artefacts, dating back to this period, have remained intact. Today, a new wave of black formal and informal entrepreneurs, together with some old Indian businesses, trade actively on Boom Street.

The urban fabric of Boom Street varies from the west to east. In the western part of Boom Street, the historical Marabastad is characterised by the finer grains of late 19th and early 20th Century. Towards the inner city, the character changes from a typical single storey covered walkway to medium scale light industrial buildings, shopping malls and modernist housing blocks. In the surrounding precinct there are abandoned modernist housing skyscrapers that are due for demolition, while new formal housing projects are under construction. It is this tension and space between the temporal and permanent home that forms the basis of this study.

The paper reflects on the explorations of Master's degree architecture students investigating this area in an attempt to development new housing prototypes suitable to the context. Key conceptual lessons arise. The notions of urbanity, suburbia and the rural are given equal importance in the housing interventions. In contrast with this co-existence, disaggregation is used as a tool to develop prototypes and functional

elements are reduced to its essence. Other strategies include sub-division, sub-letting and open-to-sky-spaces.[1]

The need for inner city housing coupled with unemployment suggest a combination of fast and slow delivery with a balanced approach to modularity and craft. Historically significant buildings provide memory and palimpsest, while larger industrial buildings are adapted and reused to explore habitation.

SPATIAL OPPORTUNITIES BETWEEN THE TEMPORAL AND PERMANENT

Blurred boundaries is a recurring theme that allows diversity of people and class.[2] It distorts sharp edges and physical separation, while crossing the divides of living. In South Africa, housing for the poor and housing for the rich are located in disparate parts of the city. People lead parallel lives with intersections only occurring in the workplace. Real opportunities for integration and healing reside in the spaces between the temporality and permanence of living. Housing is defined as a Constitutional right in South Africa, but home represents an "appropriated space" for many.[3] Attempts to restore a sense of dignity, belonging and humanity give rise to various spatial opportunities.[4] This results in the poetics of dwelling being explored.[5]

PRETORIA, A CITY OF THE GLOBAL SOUTH

Established in 1855, Pretoria is currently the third largest metropolitan city in the world based on area, while housing less than 3 million inhabitants.[6] It was originally laid out using a rectilinear grid– as illustrated in Figure 1. This grid accommodated a centrally placed church square and acknowledged the sun's path and openings in surrounding mountain ranges, resulting in a *genius loci*.[7]

Figure 1. The original town of Pretoria drawn by AF du Toit in 1859 with Boom Street as the northern edge (Allen, 1979).[8]

The Roman *urbs qudrata* as a town planning approach found its way to Pretoria, with the town quartered by the intersecting cross of the *kardo* and *decumanus*.[9] To a large extent, this principle was duplicated in the subsequent development of Pretoria– as illustrated in Figure 2.

Figure 2. Figure ground of Pretoria today with Boom Street at the northern edge.

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THE REAL WORLD PROBLEM IN BOOM STREET

Marabastad was first surveyed in 1888 as a temporary settlement for migrant black workers.[10] Originally, Marabastad operated as a site of racial inclusion, even though its inhabitants were predominantly non-white. Boom Street connected Marabastad with the white establishment in the east. During the colonial era, as well as during the Apartheid - and post-Apartheid times, Boom Street functioned as a place of vibrant trade and intense cultural exchange. Although the enforcement of segregationist laws and policies have destroyed the original sense of community, some built artefacts remained intact. For example, the Empire Theatre shown in Figure 3 is still preserved despite a lack of maintenance.

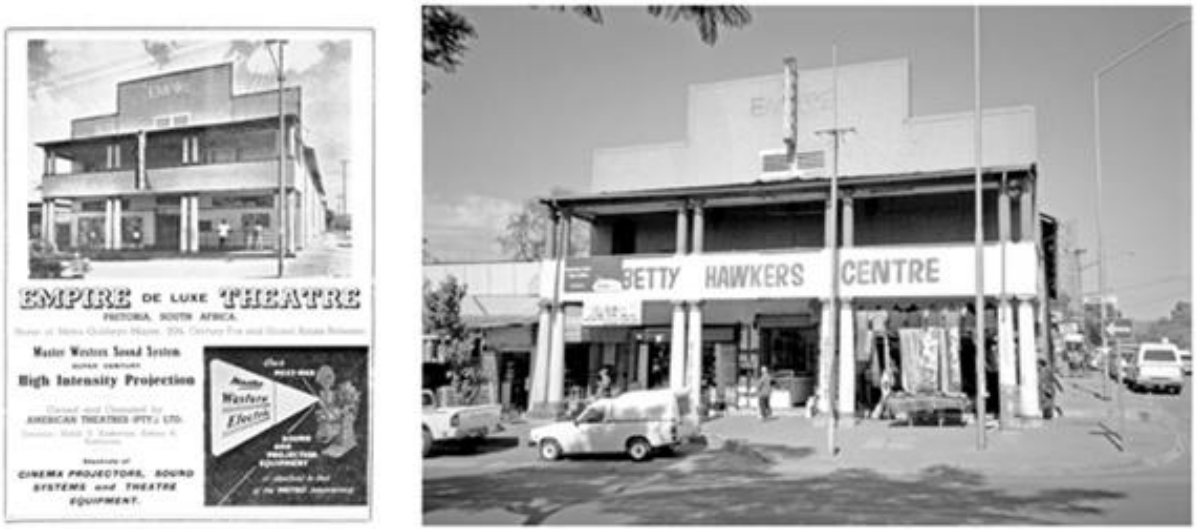

Figure 3. An advertisement (circa 1950) for the Empire Theatre and the building today that is located on the corner of Boom and 10th Streets.
http://www.aglimpseintomarabastad.co.za/adversity-and-survival.html

During the last century, no security of tenure was offered to residents of Boom Street and the land is still owned by the authorities.[11] Currently, many properties still form part of an incomplete land restitution process and people continue to live here on a temporary basis. Since the first South African democratic elections in 1994, Boom Street remained a contested place. Today it is a place that is

characterised by eviction, dereliction, decay, uncertainty and vulnerability. Figure 4 depicts the current day users of Boom Street. In 2002, Tayob described the situation of Marabastad as a place in a "state of siege".[12] Fifteen years later, the anticipated re-integration of Boom Street into the urban fabric of Pretoria did not materialise.

Figure 4. The intersection of Boom Street and Jerusalem Street with the Ismaili Mosque in the background (http://www.aglimpseintomarabastad.co.za/revisited01.htm)

IMAGINING A LIVEABLE FUTURE

According to Doshi the use of verandahs, staircases, open spaces, balconies etc. are important aspects to understand communities.[13] With cities being transformed by capitalist symbols, the use of public open space; courtyards, terraces, thresholds etc. are often compromised. The result is a separated and divided community with limited chances of meeting and sharing.

In an attempt to address this real world problem, the postgraduate staff and students of the School of Architecture at the Tshwane University of Technology in Pretoria questioned Boom Street as an urban laboratory. This research project was conducted by Master's degree students specialising in architectural design. The students had to develop an appropriate architectural response to the unexpressed need of habitation of the marginalised urban dweller of Boom Street. With housing and urbanity being central components of the design question, the students started by building a contextual model of the street – as illustrated in Figure 5.

Figure 5. Student contextual model of Boom Street.

CONTEXTUAL RESPONSES: WEST, CENTRAL AND EAST BOOM STREET

The most enduring aspect of the western part of Boom Street is the cadastral grid layout [15m x 15m]. The development of the single to two storey buildings with its verandahs in the area are illustrated in Figure 6.

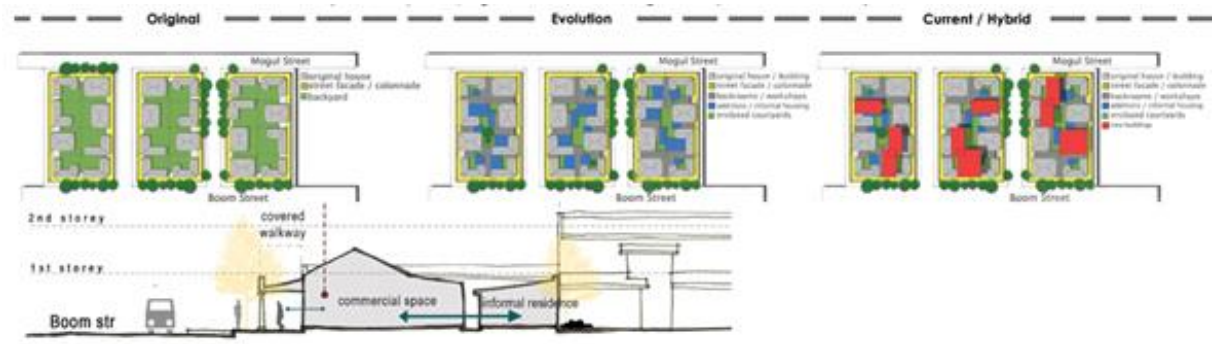

Figure 6. Fine grain of Marabastad at the western end of Boom Street.

The central area of Boom Street is characterised by monolithic, large-footprint buildings with drosscapes in-between– as illustrated in Figure 7. This area is in close proximity to the busy commuter railway station Belle Ombre.

Figure 7. Large scale buildings with open drosscapes along the central part of Boom Street.

Seven broad concepts emerged from the students' work, namely:

- Urbanity, suburbia and the rural confluence
- Disaggregation, subletting, sub-division and open-to-sky-spaces
- Nature as urban healer
- Balancing modularity and craft to produce fast and slow housing
- History, memory and palimpsest
- Adaptive reuse
- Diverse prototypes

Urbanity, suburbia and the rural confluence

The existing suburban housing along the eastern part of Boom Street resulted in new infill. The result is higher densities, variation of housing types and ways of living. Historic buildings are juxtaposed with new built forms, with communal backyards used as a productive landscape.

The rural in the urban, as a way of living, uses livestock farming and agriculture as an intrinsic way of creating community. Communal cooking, eating, working and living are further explored– as illustrated in Figure 8.

Figure 8. Living and working within the city with rural influences of agriculture and commune.

Disaggregation, sub-letting, sub-division and open-to-sky-spaces

Charles Correa advocated for the disaggregation of the built form with volumes becoming the functional and spatial components.[14] Some of the projects used a similar approach with in-between spaces becoming flexible and adaptable. The breaking up of component living spaces encouraged greater contact between occupants. A deliberate attempt was made to embrace temporality, resulting in loosely defined spaces that allow for the gradual transition between different functions. Economic realities require the pursuit of low-key building interventions. The informal settlement and backyard shack was used as precedent to produce overlapping spaces that accommodate subletting – as illustrated in Figure 9.

Figure 9. Disaggregation of form and land.

Mass housing is often equated to the monolith, focusing on floor area, number of people and monetary value.[15] This approach does not emphasise human value, often separating people and spaces. Housing in the Global South require possibility and opportunity and different scales could be used as a solution – as illustrated in Figure 10. To achieve this community engagement should ideally form part of the planning stages with specific focus on a sense of community, identity, pride, self-expression and dignity.[16]

Figure 10. The housing monolith interpreted using different scales.

Nature as urban healer: Water, animals and food production

The main entrance to the National Zoological Gardens of South Africa is from Boom Street. This presents an opportunity to create a nebulous edge between human and nature. The conventional idea of home was extended to include animal shelter because animals are part of the city. A range of warehouse structures, suburban housing and a shopping mall are neighbours to the Zoo – as illustrated in Figure 11.

Figure 11. Malls, zoo and suburban houses depict the eastern end of Boom Street.

Fast and slow housing: balancing modularity and craft; housing as process and product

The current backlog of state housing in South Africa warrants an urgent response. Together with the rapid urbanisation in sub-Saharan Africa housing delivery targets are constantly underestimated. This need requires alternative delivery approaches, i.e. factory-made solutions with minimum construction time that is both replicable and modular. However, this approach results in new challenges of displacement and demolition, also fast housing provides fewer employment opportunities.

Slow growth has evolutionary benefits, including a sense of permanence and security. It offers stability, with progress taking place in a sustainable and meaningful manner. It provides opportunity to develop the handmade using craft and human skill while stimulating local economies. A number of projects investigated the balance of possibilities. Proposals included modularity and repetition of building elements to address the immediate housing need with complementary self-made flexible parts that could be adapted over time– as illustrated in Figure 12.

Figure 12. Modular container units with adaptable infill.

History, memory and palimpsest as generator for permanence

Flanking Boom Street on either side are a number of buildings that have been built over various political periods of the country's history. Many buildings of Marabastad are considered frugal and unostentatious, representing the slow growth of the city. The Islamic mosque and Hindu temple of Marabastad are legally protected buildings.

The existing industrial and commercial buildings along Boom Street could accommodate a new layer of housing with the interventions using both fast and slow delivery methods – as illustrated in Figures 13 and 14.

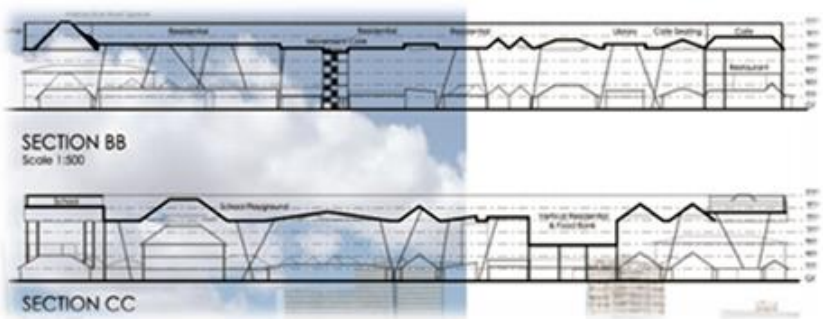

Figure 13. A sectional exploration of superimposing new programmes onto the existing urban fabric.

Figure 14. Extending the urban permanence through new modular infill

Adaptive reuse of industrial buildings

During the investigation of the existing warehouses, students juxtaposed the terms "warehouse" with "where house" in an attempt to explore ideas of living and working in close proximity. Further explorations included "otherwhere," as a deliberate approach to disrupt conventional ways of space making.[17]

The result is distinctive housing prototypes based on the uniqueness of the existing warehouses. Open semi private/public spaces were interspersed with private dwellings in cubes that are set on their apexes – as illustrated in Figures 15. The resulting spaces produce unique internal volumes, achieving place-specific identities. Adaptive reuse of existing buildings does not only contribute positively to sustainability and the reduction of lifecycle costs, but assists in creating individual prototypes for living.

Figure 15. Adaptive reuse leading to new typologies

CONCLUSION

In South Africa, the concept of housing is a highly contested territory. The student projects explore spaces between temporality and permanence of living. Within the city of Pretoria, the notion of contrast remains evident to this day. In the Global South, profound spatial separation exists in the housing landscape. This contrast manifests in various ways, but perhaps most evidently in distinctions between

the *haves* and the *have-nots*. This problem exists worldwide and it is compounded by refugees and asylum seekers fleeing areas of conflict and crisis. There is no panacea that can solve the problems of Boom Street. It remains a contested space in Pretoria that is characterised by eviction, dereliction, decay, uncertainty and vulnerability. However, Boom Street as urban laboratory offers a number of lessons which could be applied almost everywhere.

The densification and infilling of suburban fabric and the inclusion of aspects of rural living could enhance city-living.

The disaggregation of built form and land provides more opportunity for more people.

Nature should be explored as an essential aspect of liveability within the city. Animals, water and food production will contribute towards a resilient and sustainable future.

Modularity and the repetition of building elements allow for fast housing delivery, while making the most of economies of scale. Complementary self-made and crafted flexible parts should be introduced at the same time.

Buildings from bygone eras have a richness and these can be repurposed without destruction to bring new meaning to Boom Street. They provide markers and a sense of permanence within the dynamic character of the street.

The adaptive reuse of existing buildings does not only contribute positively to sustainability and the reduction of lifecycle costs, but it assists in creating individual, distinctive prototypes for living. It is important to include a variety of housing typologies.

In conclusion, the morphology, built form, building typology and language should provide an enabling environment to facilitate spatial opportunities for social wellbeing. Dwelling is a foothold to the urban world. It is a threshold to a better life and a stepping stone for advancement and prosperity. The biggest challenge of Boom Street - or any other highly contested space for that matter - is making it *a place to be*.

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THE PERCEPTION OF THE CITY AND THE TAXATION: THE STRANGE AND DANGEROUS CASES OF THE MEXICAN GATED COMMUNITIES

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INTRODUCTION

Nowadays the characteristic and prevailing process of urbanization in Mexican cities is the gated community. It refers to the physical space protected by walls and fences from city disturbance, access control, and private vigilance. This kind of neighborhoods tends to spread throughout Mexico without restrictions, but the ones established by the real estate market.

The urbanization process seen mainly in newer cities –the ones highly developed after 1992 due to the privatization of agricultural land- has serious weaknesses. First, an accelerated population growth promoted by a lack of opportunities in the rural areas creating a series of irregular settlements in the city outskirts without any sort of urban organization. Second, a fast economic development process within this new city paradigm where governments claimed the creation of new jobs without taking into consideration the creation of new and good infrastructure and urban equipment. Finally, the governments have to design and implement urban policies that are feasible in this context.

These difficulties have facilitated social and spatial polarization. Inequalities were accentuated in the creation of poor neighborhoods where public services, equipment and infrastructure are scarce, increasing insecurity. On the other hand, privileged neighborhoods, the ones without any lacking service, become insecure, as the poor neighborhoods start to spread throughout the city. Within this scenario is that gated communities became the easiest and fastest solution mainly to fulfill a satisfaction of security and the provision of better services.

Communities of all kinds started to privatize public urban spaces, from streets to parks and even entire neighborhoods. These perception of security within the citizens has created, in the majority of the cases, an increment in conflicts within the area and the whole city. These enclosed neighborhoods, often called gated communities, are hard to define them as actual "communities" since the social bounds within them are often weak. The fact that people live within the same walls do not necessarily consider themselves part of that neighborhood precisely because of the constant fear of insecurity among them. These communities are often giving the back to the actual problems happening in the city, increasing a sense of resentment in nearby "open neighborhoods" that are often represented by the wider poorer society.

This is seen particularly in new developed enclosed settlements that are mainly stablished in the periphery, nearby irregular settlements, where land is usually cheaper.

Several authors have tried to explain the phenomenon of enclosed urbanization, particularly in Latin America. For instance Cabrales (2002) and Janoska (2002) agree that the origin of enclosed communities is in the United States and from there, due to globalization, have arrived to Latin America in recent years as a symbol of better lifestyle and further as security zones. Borsdorf (2003) on the other hand, identifies a strong tradition in spatial segregation in Latin-American cities, observing this tradition in the typologies of housing and religious monasteries of Spanish origin. Borsdorf also indicates the existence of enclosed communities back in the 19th century, often developed by foreign industrial companies, and in the early 20th century when the development of country clubs in cities such as Buenos Aires and Mexico was present.

The truth is that although these early experiences of enclosed communities are seen in the Latin American urban context, the contemporary phenomenon has an expansive character with similar formulations as the ones seen in the United States in terms of self-government, privatization of the public space, the pretention of create community, but overall, due to this perception of defending the neighborhood from outsiders and the insecurity they generate. Borsdorf and Hidalgo (2005) identify the formation of a new sense of city design with the proliferation of enclosed neighborhoods where it appears to dominate the anti-urbanism represented by urban inaccessibility, the exaltation of exclusivity and social prestige, scarce interrelationship among social groups, patronizing exclusion over inclusion, under-exploding the infrastructure and equipment of the urban fabric.

We see, therefore, that gated communities are not only a matter of social conflicts: the urban collocations of these settlements and the lack of connections to the outside brings to the dependency on the car, creating problems in terms of traffic, pollution and social cohesion. Moreover, the organization of these settlements creates problems in terms of territorial consumption and conflict of interest among the relationship within the public services providers such as the police department.

As gated communities become an aspirational value for citizens within the city, not only rich neighborhoods were able to live enclosed. In recent years, even social housing has provided the option of living in an enclosed neighborhood, generating a series of problems that go from lack of services in the interior of the community, as neighbors have to pay extra for them –because gated communities become private, therefore government declines the right to provide the service in the interior of the neighborhood.

In this context, this paper wants to discuss the relation between the increasing tendency of living in gated communities, the perception neighbors have about gated communities compared to open traditional neighborhoods, and the negotiating power some gated communities have in front of local governments in terms of public service provisions.

HYPOTHESIS

With this research we want to analyze how the need of perceiving a better level of security and wellness brings to an increasing number of people to be inclined to pay extra-taxes to have more services in these gated communities where the services of the governments do not necessarily arrive. Within this phenomenon, managers of gated communities have in their hands a negotiation power in relation with the government because it does not have to provide services, as it is a private property, resulting in a benefit for the government, even if the citizens living in the gated community pay for them through taxes. This negotiation power brings to negative effects in the city, leaving the gated communities free to appropriate of parts of the cities, such as the streets and parks, bringing to problems in terms of social resentments, traffic and eco-friendship.

METHODOLOGY

We divided our methodology in two main steps, first a questionnaire that reflects the perception of neighbors regarding public services and urban space, and second a literature review of planning and construction codes of the city with particular interest in the development of enclosed neighborhoods.

First, a survey was conducted in early 2017 to four different types of communities within the city of León. The communities were divided in High residential; Upper middle class; Middle class; and Lower middle class. These communities are divided in classes according to the census data provided by the Mexican National Institute of Geography and Statistics (INEGI) and corroborated by the Municipal Neighborhood Association. We then separated the communities in gated and not gated. The questionnaire was divided, basically, in three sections: (i) mapping the sense of community; (ii) the interaction of the community with the public space, enlightening the forces that disturb the experience of the citizens; (iii) and the perception of the services offered by the government and the municipality involvement in the management of the neighborhood.

The questionnaire sampled more than 200 citizens representing the four different areas asking to fill a digital questionnaire provided by Google forms. To reach the best sample of citizens, the research group used the data base of the Municipal Neighborhood Association, which is a non-profit association willing to collaborate in our investigation.

The second moment of the research regards to the analysis of planning and construction codes, with particular interest in the development of private communities, also called "*fraccionamientos*". We did an exhaustive review of all codes and planning rules that are applicable to date in León municipality related to gated community development.

RESULTS ABOUT PERCEPTION

Results presented on figure 1 show how gated communities become more popular as social class evolves and wealth increases. The increasing perception of wellbeing proliferates so that realtors and developers sell gated neighborhoods for different wealth groups, so that from the middle class range, one is able to afford to live in a gated community despite its location, however location is usually better for wealthier groups. A second least popular option that has been increasing throughout the years is the closing of streets to become sort of clusters in neighborhoods that originally were developed as open grid. This has proliferated in central areas of the city where vandalism and insecurity perception has increased.

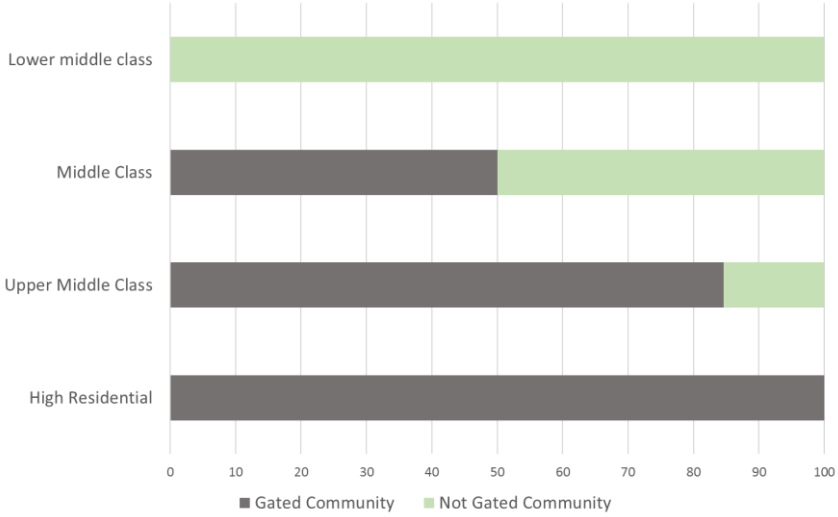

Figure 1. Questionnaire results showing how gated communities are more common as social class evolves and wealth increases.

Results about perception of Municipality care decreases as neighbors acknowledge they have to pay an extra fee to fulfill those services that municipality does not offer inside the community, so that only 24.1% of residents of gated communities consider that the municipality takes care of their neighborhood while 42.2% of residents of non-gated communities perceive that municipality cares for their neighborhood. We also asked about their perception about general neighborhood maintenance, and it is seen that is better perceived in gated communities than in not gated communities, mainly as a result for the extra fee collected (Fig. 2). It is interesting though that 40% of the inhabitants of gated communities perceive that there is low or no maintenance or simply they do not know whether the community receives some maintenance treatment. We did not find a trend of response that could be correlated to a particular wealth group living in a gated community, as the responses were similar despite the social group.

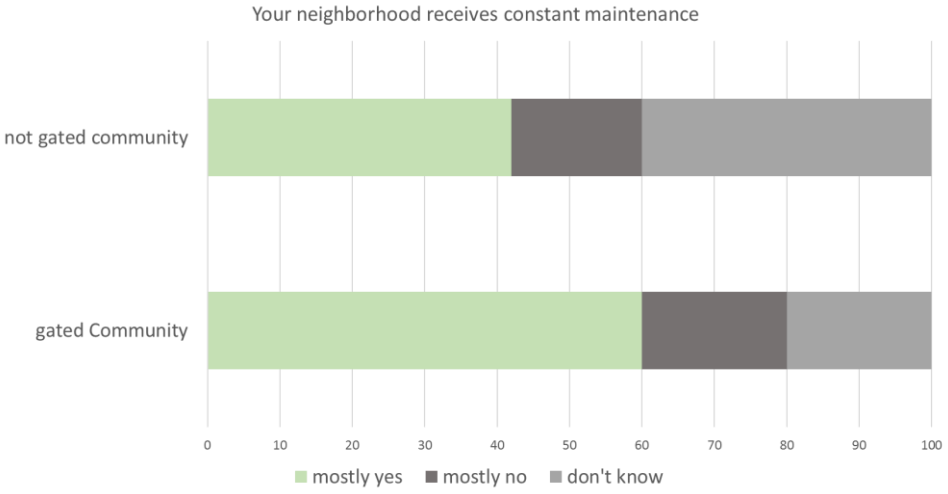

Figure 2. Questionnaire results showing how gated communities perceive a better maintenance of their neighborhood overall compared with not gated communities.

However, when we asked the neighbors whether they would be willing to pay an extra fee from their taxes for services normally provided by the municipality the answer was mainly a negative one, where 70% of the responses, in spite of being in gated or not gated communities, would not be willing to pay extra for the services normally provided by the municipality. This is an interesting fact taking into account that all gated communities have an extra maintenance fee that covers most of the services normally provided by municipality such as trash removal and security –but in many others it also covers water wells or septic tanks- and other services that municipality would not fulfill despite these citizens pay for their taxes.

Finally, we asked about security perception, where people argued to live more secure in high residential areas than in low middle class areas, despite being in gated or non-gated communities (Fig. 3), however it is seen that all high residential residents live in gated communities (Fig 1) considering therefore that gated communities are perceived more secure and with higher wellbeing than non-gated ones. However, in a separate research (Charles, et al. 2017) we found that enclosed communities foment a lack a mobility in other ways different than automobile, decreasing wellbeing and compromising security.

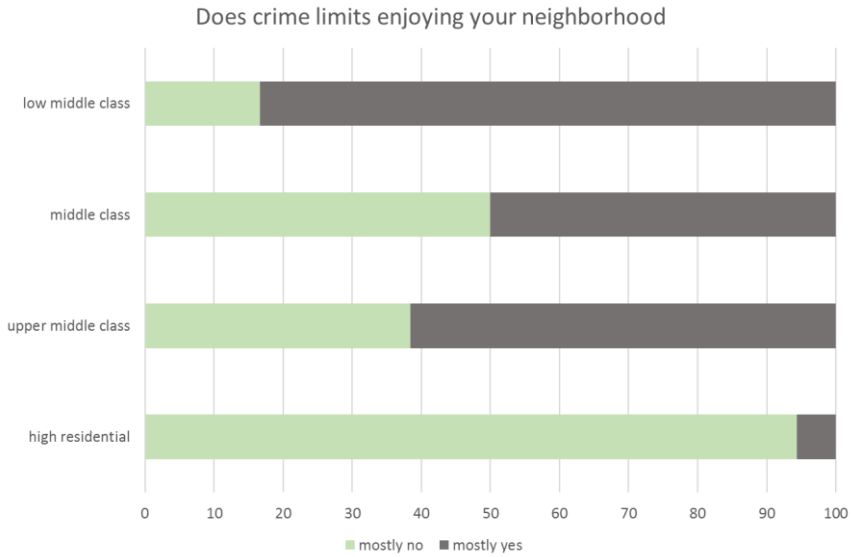

Figure 3. Questionnaire results showing the security perception and how according to the social class it changes considerably.

We found that residents of gated communities are not aware that they are paying more for the services provided than if they were living in traditional neighborhoods within the city. The perception of security and wealth sold by gated communities has more weight that the fact that it is more expensive to live there, but most residents obviate the fact.

RESULTS ON THE ANALYSIS OF CODES AND REGULATIONS

One of the main findings when looking for the different codes and regulations gated communities should comply with was the fact that the Municipality gives power to the developer and eventually to the neighbors to manage public spaces that are owned by the city. Although the municipality owns these spaces, the neighbors are responsible of paying for all the maintenance and other services provided within the enclosed community as seen in the Urban Development Code, art. 256 (Desarrollo Urbano, 2010). The developer gives a sell-pitch of owning a space that supposed to be private but in reality these spaces will remain property of the city. Therefore, taxation is doubled as neighbors still pay for the

services that municipality is supposed to provide, but in the end neighbors are paying to provide for these services, supposedly because they are owners of these spaces, which is not true. This finding is interesting as it plays as a conflict of interest, where municipality allows and encourages gated communities because they represent a benefit to them, as they still receive taxes specifically for the provision of public services but in the end it is the neighborhood association who will pay extra for those services. However, according to the president of the Municipal Neighborhood Association (Lozano, 2017), many gated communities agreed with some institutions for public services, particularly regarding security enforcement, to have some benefits outside the realm of the institution. For instance, some high residential gated communities offer exclusive reach for police in case of an emergency through direct access to the police communication radio frequency (Lozano, 2017).

Regarding privatization of neighborhoods, we found that enclosed communities are illegal as determined by the urban code (art. 157) (Desarrollo Urbano, 2010) and the Federal Constitution (art. 11, 14 and 16) (DOF, 1917), as these refer a violation of free transit among National territory. This means that asking for registration or personal identification before entering to the gated community is against the law, although this is common practice in every single one of them. This, again, results in a relationship of power where people living inside the gated community perceives not only a more secure environment but also, a position of power over the rest of the citizens; it becomes a privilege to live and to be accepted inside the gated community.

Public spaces within these enclosed neighborhoods are conformed in their majority for huge green areas and pedestrian walks which are for private use only. The municipality accepts that these are public spaces, but they remain permissive to the exclusivity of these areas that hardly will be allowed to public use. Furthermore, the privatization of these green spaces are often in cities where large public spaces for recreation and entertainment are scarce, contributing not only to city fragmentation but also to urban social segregation, a process that refers basically to the normalization of social inequality.

If Municipality knows all these facts, why is therefore continuing to provide permits for gated communities and private streets? We argue that as the Municipality prefer to allow these abuse because they are not responsible of providing the services and maintenance in wider areas of the territory they perform. Moreover, they still receive payment in form of taxes to provide these services –money that is used supposedly for other purposes.

CONCLUSIONS

Socioeconomic polarization in Mexican cities is evident. In this context gated communities become an option for middle and high social classes to express exclusivity and social prestige. Social segregation shown in rising walls and surveillance check points stablishes material forms to social distances. Gated communities constitute a security and tranquility paradise inside the precariousness that exists overall the city.

In this context, we found that people are willing to pay extra to their taxes to pay for perception of security and wellbeing. People do not perceive the true costs of living in gated communities related to lack of mobility connection, expensive services (not strictly related with security) and average longer distances to basic urban equipment (school, supermarkets, etc.) and neither perceive the health consequences of living in these kind of neighborhoods, related to a larger laps of time spent in the car, lacking of pedestrian mobility. Furthermore, neighbors of gated communities are not aware that Municipality owns their “private” spaces, such as security cabins, parks, streets, whose maintenance is provided by the neighbors. The privatization of streets becomes illegal as determined by the urban code, as it refers a violation of free transit among the national territory.

It is important, therefore, to take into account the fact that a connected city is a living city. If every sector of the city managed to become a community, problems of security, infrastructure and mobility would be reduced. The perception of insecurity and the need to privatize spaces proliferate, regardless the social strata of the communities chosen for the study. If, on the other hand, we can agree on neighborhood committees, where we work in favor of public space, we believe that inhabitants would have more certainty of what happens in their community, they would re-appropriate the city.

That is why our duty is to make known the negative effects of the type of city we are building and leaving to future generations. We must promote the appropriation of public space through clear and assertive strategies, beginning with education and citizen participation.

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POTENTIAL OF RETROFITS OF TWO TYPICAL NEW ZEALAND HOUSES FOR AGEING IN PLACE

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INTRODUCTION

A significant number of existing dwellings do not meet the differing and changing needs of their occupants, specifically older people and those with disabilities.[1] The New Zealand Standard *4121:2001-Design for access and mobility: buildings and associated facilities* was developed in 2001, but provision of access or facilities for disabled people in residential buildings is not mandatory in the Building Act and Building Code.[2] Given the projected number of older people in New Zealand[3], perhaps more attention should be given to the provision of dwellings which can accommodate the requirements of the ageing population.

Most design standards including Lifetime Homes (LTH) from the UK and Universal Design (UD) principles from the USA are for new build developments. Although applicable to existing houses their incorporation into these could be a major challenge. In order to optimise the lifetime housing supply in New Zealand, Saville-Smith, and James[4] suggest that "a clear, consistent and single framework of standards" is required for both new builds and existing houses that deal with liveability and visitability. As a result these principles are examined for their application to existing New Zealand houses.

CASE STUDY SELECTION

Two New Zealand housing types were investigated for this paper (early 20th century villas and 1940-60s single storey state houses). Villas are generally planned with a central corridor with rooms to each side.[5] Typical villas have bay windows and verandas facing the street, hip roofs and timber cladding, and are usually single storey.[6] Apart from state housing built for older people typical family houses have varied layouts[7], with as many rooms as possible receiving some sun. Most state houses were "fairly small, with a roof pitch of about 30˚, and small casement windows".[8]

DESIGN CONSIDERATIONS

According to De Jonge et al. home modification for the 65+ age group means changing the houses to "…make tasks easier, reduce accidents and support independence".[9] In the UK this has recently led to applying Lifetime Homes standards to new "general-needs homes".[10] Likewise, in Australia the limited number of new universally-designed dwellings has led to a shortage of appropriate housing for the ageing population and Mcnamara et al. indicate retrofitting will be the main way to incorporate universal design principles into existing dwellings.[11] The situation is the same in New Zealand. To support ageing in place, Davey suggests using inclusive or universal design standards and "assistive

and smart technology", although these should not be seen as substitutes for social support and social interaction.[12]

In an investigation of infill development for older Australians using a collaborative design process, Baldwin et al.[13] found universal and accessible design was important for the elderly. Additionally, Sutherland and Tarbatt[14] investigated the design attributes of mainstream housing which had attracted downsizers, finding one of the main reasons for their interest in it was the application of lifetime home standards.

Statistics New Zealand[15] suggest an increasing demand for communal dwellings is driven by the ageing population. Communal residential buildings such as co-housing can be attractive to older people as they can provide assistance and companionship. Evidence from the UK DWELL project indicates sharing outdoor spaces is acceptable particularly where they provide shared activities such as a barbecue.[16] In Australia, Judd et al.[17] found that unlike other movers, older people who downsized are more likely to move into a form of multi-unit housing than a separate house.

Using the New Zealand Lifemark 3-star standards three designs were produced for a villa and smaller state house with different degrees of shared space, ranging from conversion to two smaller units (schemes B and C, Figure 1), to having some shared spaces such as a guest bedroom (scheme D, Figure 2), to private en-suite bedsitting rooms and all living spaces shared (schemes E and F,Figure 3).

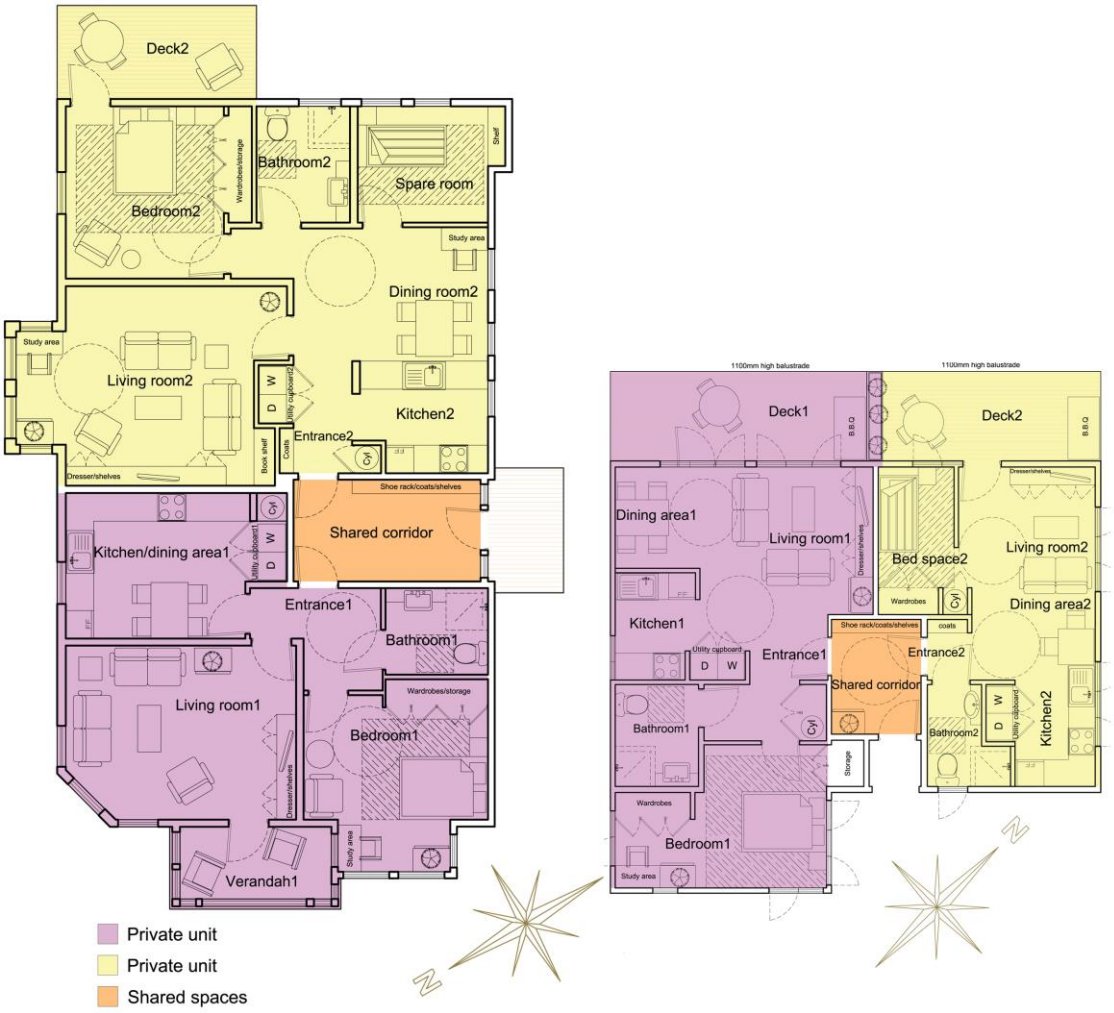

Figure 1. Left: Scheme B, villa; Right: scheme C, state house: separate units with shared hall/entrance

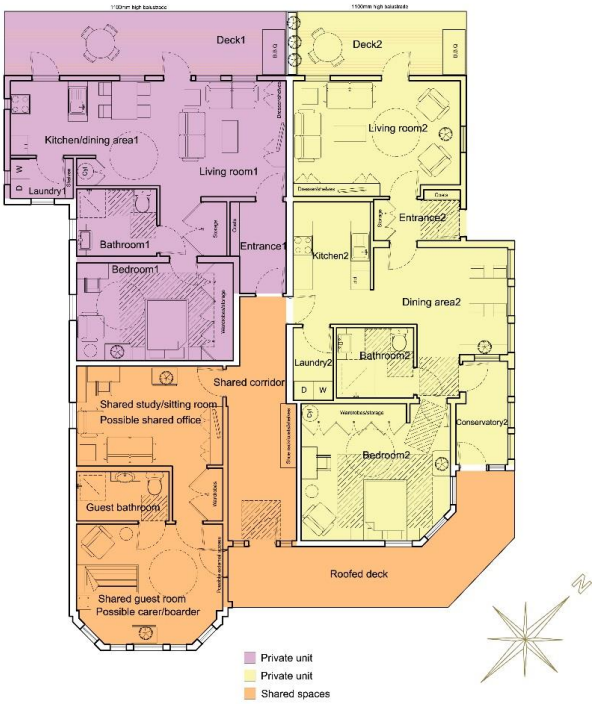

Figure 2. Scheme D: Villa, separate units with some shared spaces

Figure 3. Left: Scheme E: villa; Right: scheme F: state house, private bedsitting rooms, with shared living spaces

The designs are for people wanting to downsize who are able to maintain their lifestyle independently or with a low level of assistance. The aim is to see what is possible when converting existing houses.

EXISTING HOUSING DESIGN GUIDANCE AND STANDARDS

Design standards have been developed to promote the access in the built environment for those with disabilities. Some countries have legislation to ensure all buildings address access for everyone, such as Part M of the building regulations in the UK, and the Disabilities Act 1990 in the USA. Other countries like New Zealand and Australia have standards such as NZS4121 in New Zealand and AS1428 in Australia, which deal with minimum requirements for access and facilities for disabled people. Imrie[18] highlights the relationship between the development and implementation of technical standards and accessible and usable domestic environments.

Although mandatory minimum requirements are widely acknowledged as enhancing the quality of life for everyone, including the elderly and those with disabilities, a number of supplementary private design standards have been developed to address universal access that go beyond current regulations. Apart from the UK Lifetime Homes and Universal Design in the US, these private standards including Inclusive Design in Canada, Liveable House in Australia and Lifemark Homes in New Zealand support the concept of "designing for all".[19] For the purpose of this paper, UK Lifetime Homes (LTH) and Universal Design (UD) standards were compared with NZ Lifemark home (LM) standards to select the most appropriate for incorporation into the case study designs.

Lifetime Homes (LTH)

Lifetime Homes (LTH) was developed in the late 1980s by Habinteg and the Helen Hamlyn Foundation in the UK whilst working on the design of housing for older people.[20] These standards were then set up there by the Joseph Rowntree Foundation (JRF) during the 1990s[21] and revised in July 2010. LTH standards include set of specifications which "maximise utility, independence and quality of life, while not comprising other design issues such as aesthetics or cost effectiveness".[22] According to Carroll et al., a Lifetime Home is a house which meets the changing needs of its occupants over their life-span, so that they can age in place should they experience age-related disabilities.[23] The LTH standards were developed for general-needs housing, aiming to meet the changing needs of a diverse range of potential occupants. This means while some principles can be incorporated at the design stage, the house can later be simply and reasonably cost-effectively adapted to include the other principles.[24]

Lifetime Homes standards consist of 16 design criteria emerging from the five main principles of inclusivity, accessibility, adaptability, sustainability and good value.[25] However, LTH and open plan building principles have limited applications since they can only be incorporated into new build dwellings so Barlow and Venables suggest refurbishment with electronically enhanced assistive technologies could target a larger number of consumers as this would be applicable to existing dwellings.[26]

Universal Design (UD)

Universal Design is defined as "the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialised design".[27] A group of architects, engineers, product designers and environmental design researchers developed the seven principles of UD.

Unlike LTH, UD is generally focused on designing for everyone regardless of their ability, age and body performance. In addition to "design for all", Imrie suggests UD is also a response to the problems encountered by people with disabilities in poorly designed environments,[28] as to avoid the social exclusion of disabled people, UD attempts to address their needs through basic design concepts.[29,30] This is possible through making environments usable by a broad spectrum of users thus drawing attention away from users' functional limitations and impairments.[31] This aligns with Sanford's[32] description of UD as "…everyday design with specialised design built in". UD is thus

different from other standards because it considers the widely varying needs and ages of all users rather than being for older people or those with disabilities.

New Zealand standards

NZS4121:2001-Design for access and mobility: buildings and associated facilities

Standards New Zealand developed *NZS4121:2001-Design for access and mobility: buildings and associated facilities* to set out the accessibility requirements for non-residential buildings. The standard is not mandatory for dwellings. In the Building Act 1991 adherence to *NZS4121* is a means of complying with the Building Code. The standard deals with "*requirements for the design of buildings, facilities within buildings, driveways, carparks, passages and any associated landscaping and accessways for use by people with disabilities as required by the Building Act 1991 and the Local Government Act 1974*"[33]. It applies to refurbishment of existing non-residential buildings and where design compliance with the Building Code is considered impossible, it offers a number of design solutions for common problems, while advising these are not applicable to new buildings.[34]

It seems standards and regulations for non-domestic environments might create problems if applied to these. Quinn et al. studied the Australian non-residential standard *AS1428.1-2001-Design for access and mobility*.[35] These guidelines were developed to be used by a large number of consumers in public buildings, so consider assistive devices, specifically wheelchairs, used out of the house. The specifications for these are significantly different from those usually used at home.[36] The latter are normally smaller and more manoeuvrable[37].

New Zealand Building Code

A number of standards to meet the requirements of people with disabilities are set out in the clauses of the NZ Building Code.[38] Although the Building Code is only for non-residential buildings it is still not a complete source for access requirements and for full information it is necessary to refer to NZS4121.

Lifemark Design Standards (LM)

In 2012 the New Zealand organization Lifetime Design Ltd. produced their Lifemark Design Standards, followed by a second version in 2016. The aim was to assist an ageing population meet their changing needs in more suitable houses, although they claim a 'lifemark house' is beneficial for occupants and visitors of every age and ability.[39] Design standards are set out for typical New Zealand residential buildings including apartments. Usability, adaptability, accessibility, safety and lifetime value are the five Lifemark Design principles.[40]

Lifemark Design provides a star rating and points system within which every 'lifemark' home has to meet the requirements specified in one of three categories, including a 3-star lifemark home being fully adaptable in the future at minimal cost and a 5-star lifemark being fully accessible.[41] A 3-star home is achieved when minimum requirements are met and some additional points are accumulated. Further points can then be earned to achieve a 4 or 5-star level. The highest 5-star rating is achieved if all respective requirements are met and operational at the time of construction. The additional points accumulated therefore illustrate the level of performance.[42] For instance, a wheelchair user should aim for a 5-star lifemark home to meet their access requirements. Lifemark provides the opportunity for occupants to select the most appropriate standards within the three categories for their current and future needs and financial situation.

Lifetime Design Limited state the Lifemark principles are "*more useful or best practice criteria*" than the minimum requirements of NZBC.[43] However, the minimum requirements in Lifemark specifications comply with those of NZBC.

RELEVANCE OF STANDARDS TO THE PRESENT STUDY

The aim of investigating the various design standards was to select the most appropriate for this research. The large number of design standards and disparities in associated details makes such selection difficult. For instance the recommended clear opening width for doors in Lifemark design is 810mm and 760mm in NZS4121.

Given the Lifemark standards were specifically developed for residential buildings in New Zealand and are stricter than NZS4121, these will probably best serve this research although meeting these could be a challenge in practice. In order to compare New Zealand's "best practice criteria" as claimed by Lifetime Design Limited[44], to the most internationally accepted accessibility standards, a table was set up to compare the aspects of the current version of UK Lifetime Home (2010 revised), Universal Design (2006 revised) and New Zealand Lifemark design standards (2016 revised). Six aspects were defined for this table: 1.accessing the dwellings, 2.getting around, 3.habitable rooms, 4.sanitary facilities, 5.dwelling facilities and storage, 6.fittings and fixtures. Each area has subcategories in which the respective standard is presented. Some outcomes of this comparison are discussed below.

DISCUSSION

The characteristics and sizes of villas and state houses provide opportunities for various design solutions for ageing in place. This variety includes various degrees of sharing, number of occupants, ways furniture can be accommodated within the proposed designs, living arrangements, and the extent to which Lifemark standards could be incorporated. Below are discussed a number of different outcomes from incorporating LM standards into the chosen existing houses.

Communal spaces

Figure 4 illustrates communal spaces in the proposals for a state house and villa. The larger villa offers larger shared spaces (57m^2) of living room, kitchen, combined dining space and study/sitting area, with various spaces for sitting and dining. This proposal also provides a large extra room which can be used as a guest room or for other activities. The smaller state house still provides 39m^2 of shared space, comprising living room, combined kitchen and dining space and separate study/sitting area which could be a guest room.

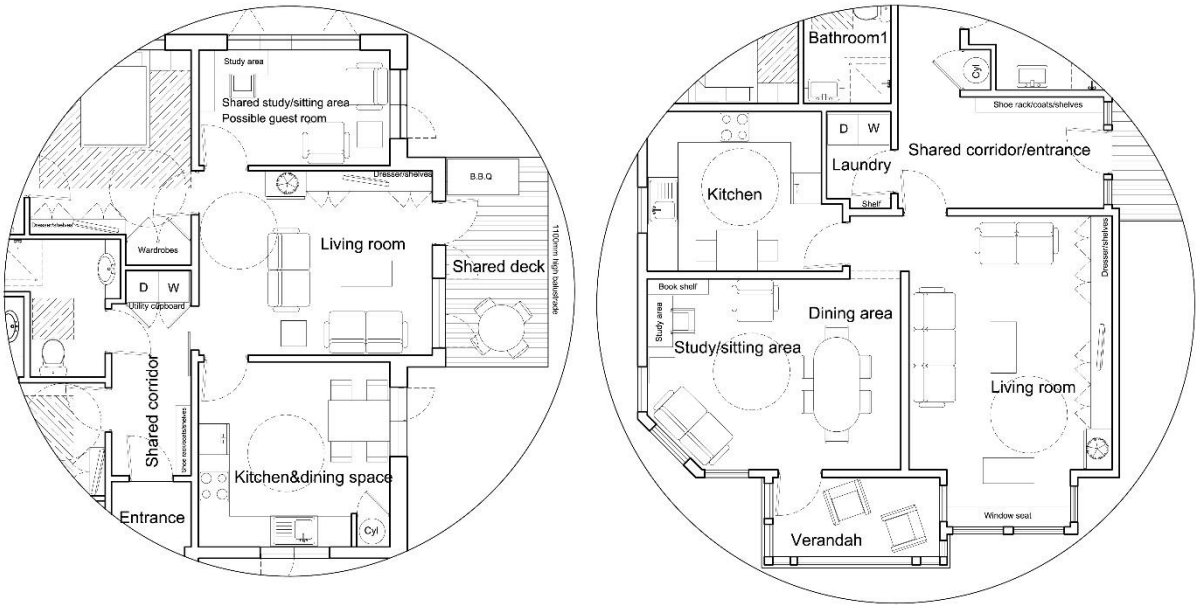

Figure 4. Left: state house (scheme F); Right: villa (scheme E), schemes with shared living spaces

Bedrooms: size and furniture

LTH specifies a clear turning circle of 1500mm diameter and 800mm clear space around one side and the foot of the bed, in schemes B and C, the number and size of proposed bedrooms determine what can be achieved. In scheme C the original house was converted into a one-bedroom (13.1m^2 bedroom) and a studio unit (5.4m^2 bed space). The latter does not contain a clear turning circle of 1500mm diameter whereas the former has 800mm clear space around both sides of the bed (Figure 5).

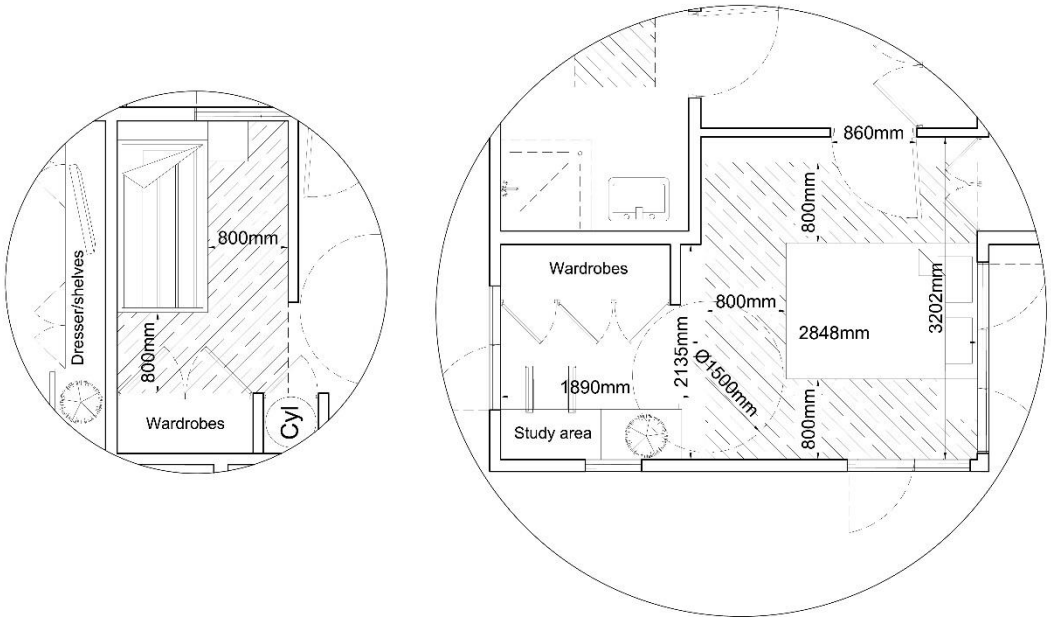

Figure 5. Bedrooms in conversion of state house into a one-bedroom (right) and studio units (left)

In the scheme for conversion of a state house into two one-bedroom units, it was impossible to achieve a clear turning circle of 1500mm diameter and 800mm clear space around both sides of the bed (Figure 6).

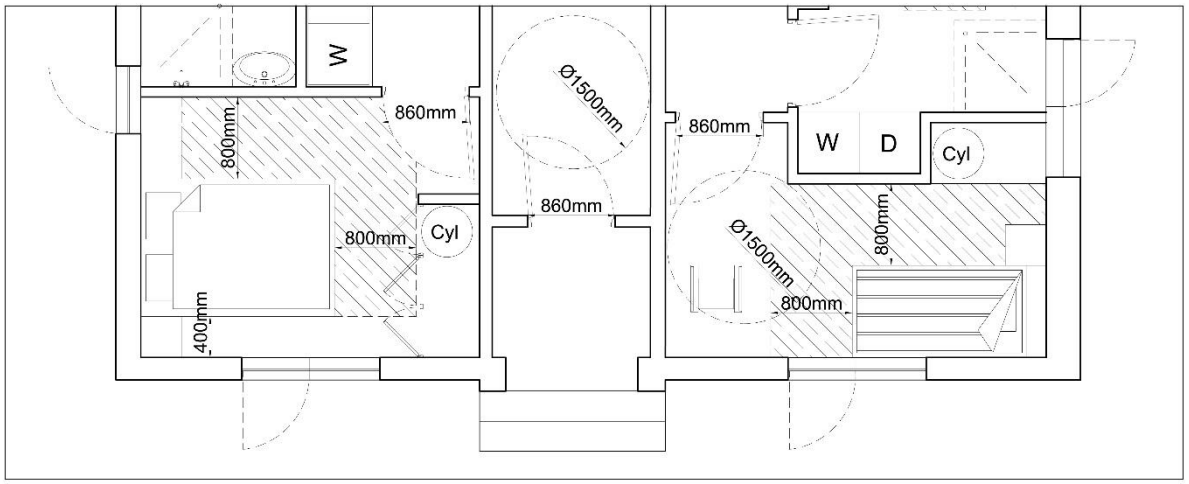

Figure 6. Bedrooms in conversion of a state house into two one-bedroom units with 8.4m^2 bedroom (left) and 7.8m^2 (right)

The villa (figure 7) offers larger bedrooms that can accommodate wider variety of activities, such as an armchair for reading and a study desk and meet Lifemark standards.

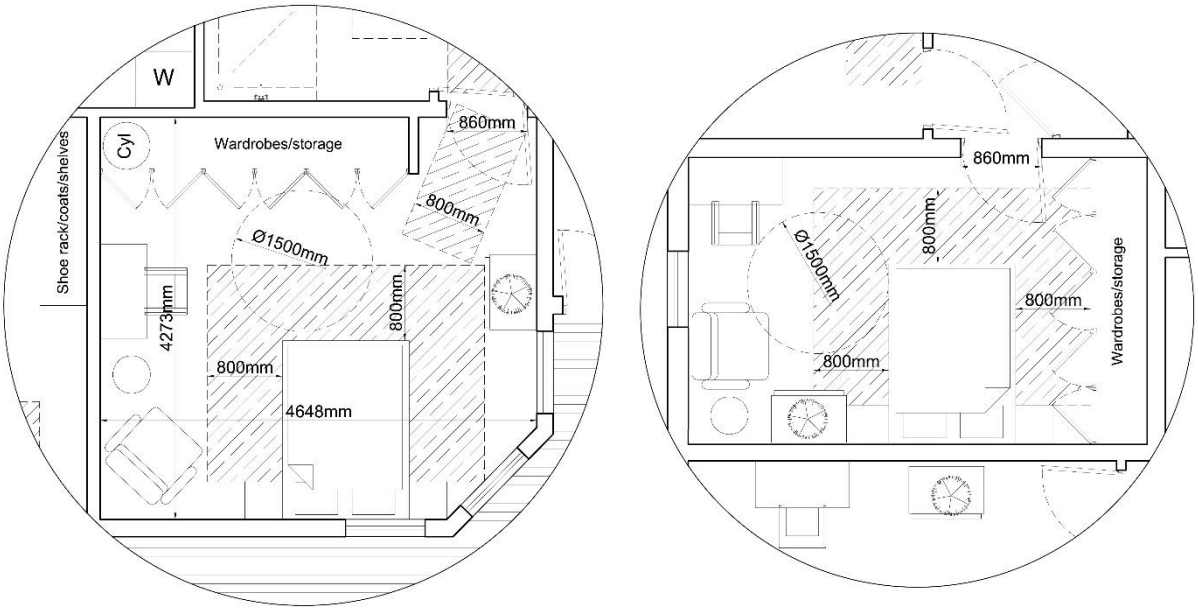

Figure 7. Bedrooms in villa conversion into two one-bedroom units (with some shared spaces): bedrooms being 17.3m2 (left) and 15m2 (right)

Villa schemes with shared spaces

Only the villa allows conversion into two units with some shared spaces, such as a guest room and extra sitting area or study and office (Figure 8).

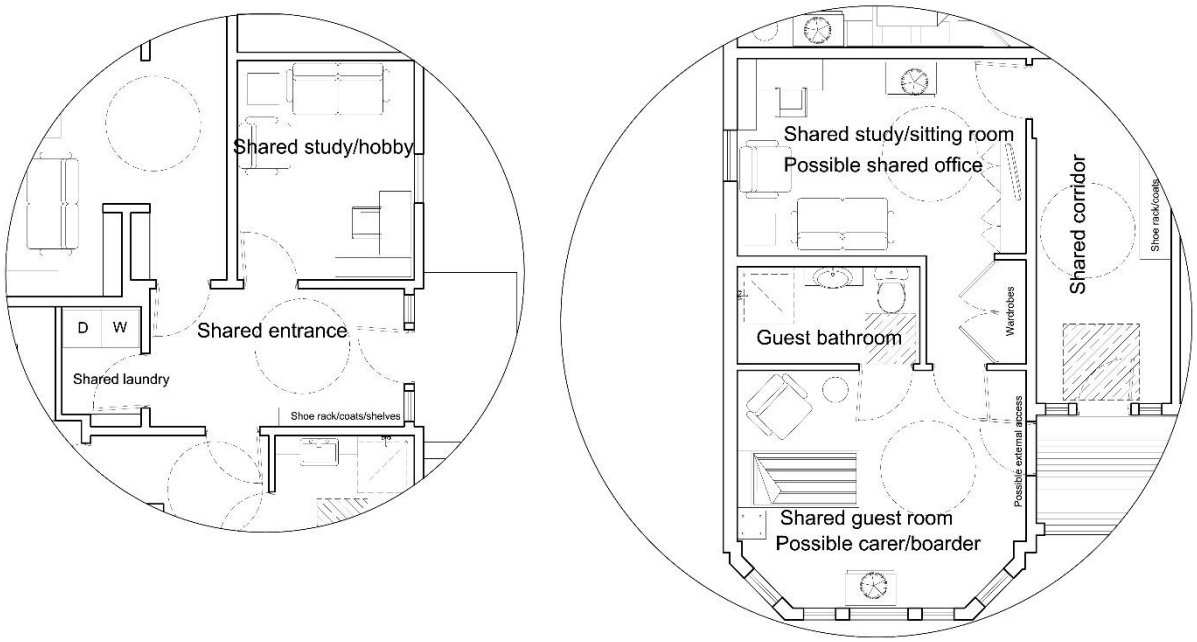

Figure 8. Conversion of villa into two units with shared spaces

Bathroom and laundry

Bathroom is an important space when incorporating lifetime standards. Having a wetroom means a larger shower area and allows 800mm clear transfer space beside and in front of the toilet (according to LM having only one side or in front of the toilet is mandatory). The disparity in the size of the two house types leads to wetrooms of 5.3m^2 and 4.3m^2 in villa and state house respectively. In addition, a

utility cupboard of only 0.8m^2 (Figure 9) in the state house may not be acceptable for some people, while the villa has a 2.9m^2 laundry in the same type of conversion.

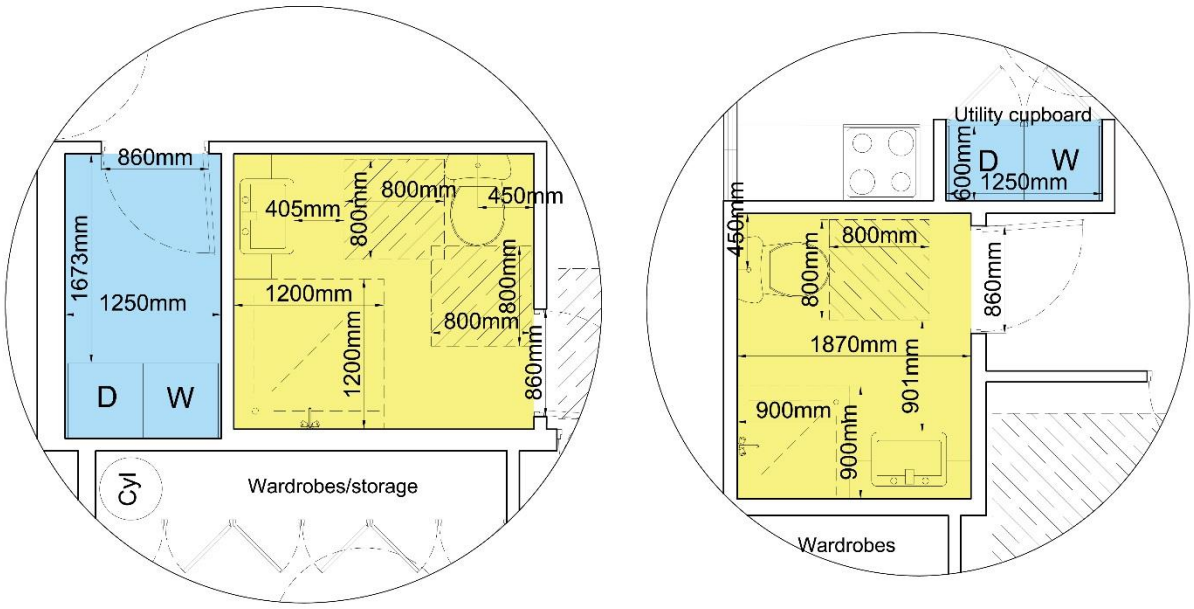

Figure 9. Landry and bathroom/wetroom dimensions for conversion to separate units - villa (left) and state house (right)

Shared corridor/entrance and laundry/utility cupboard: dimensions and features

Figure 10 shows the shared corridor/entrance and laundry/utility cupboard in both state house and villa. The size of the original circulation space in both houses make incorporation of lifetime standards possible without major changes but there is no adequate space for a separate laundry in the state house.

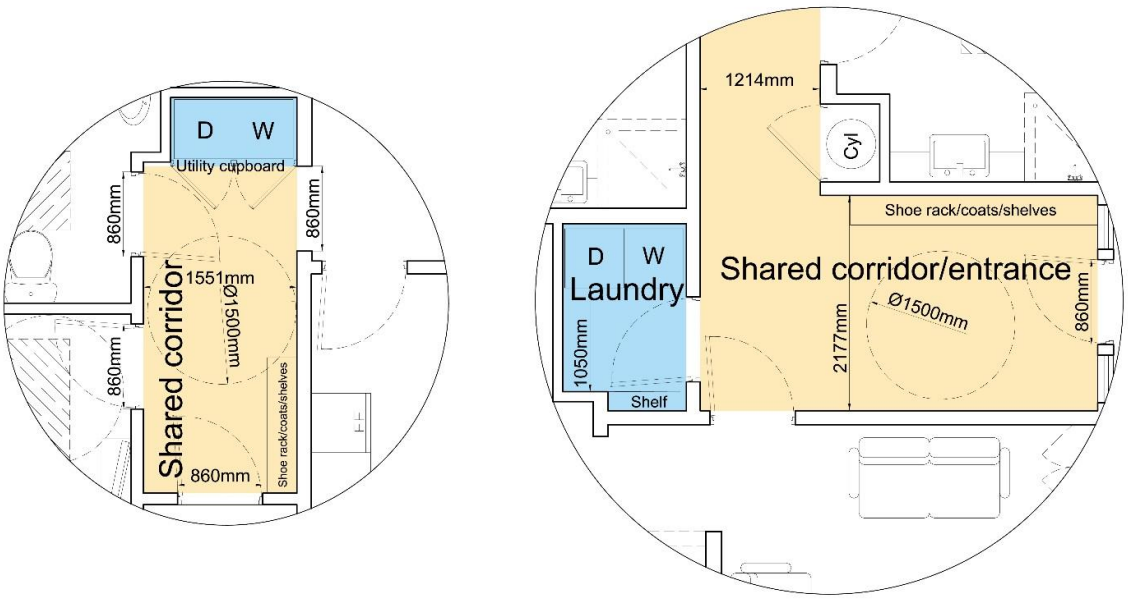

Figure 10. Schemes with shared living spaces: state house (left) and villa (right)

CONCLUSION

Because this research is concerned with existing dwellings the LM 3-star standard has been used as the starting point in the designs to see if it is possible to achieve these when converting existing houses. In

places LM-3star, this has been supplemented with aspects from UD and LTH, particularly for the design of sanitary spaces.
The larger villas offer a range of design solutions including separate and shared living. Although the preferences and requirements of potential occupants should be considered in retrofitting existing houses regarding the various degree of sharing and incorporation of design standards, the villa simply offers people more choices in finding the most appropriate living scenario that meets the needs of its occupants: some people might need a live-in carer and some prefer an extra guest room.
The different size and plan characteristics of villas and state houses provide opportunities for various design solutions for ageing in place, although the units from conversion of state houses are small (and hence easy to heat and maintain) but might be unacceptable to some people.
Converting houses into smaller units that are easier to heat and meet Lifemark Home standards seems like a good idea and is possible but feedback on these from the client group is required. The next step is evaluation of these design solutions by an expert panel and through an on-line survey and focus groups with those aged 55+. This work is still in progress and one purpose behind the focus groups is to talk through the designs and gain greater understanding of what housing people want and can afford that will allow them to age in place with a good quality of life.

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SPACE PROTECTION AND RECONSTRUCTION STRATEGY: A CASE OF LINGSHUI VILLAGE IN BEIJING OF CHINA

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INTRODUCTION

To save the precious culture heritage and dispense the urban and rural of unbalanced development, the best approach is to make village more livable by motivating its vitality and keep its sustainability. This work concerns itself by investigating what Jingjinji area seriously suffering? How can we do to make the village still look as it did originally but more energetic? This paper explores the reasons from the views of space、ecology and ethic as the main power to drive the evolution of traditional dwellings. Four important strategies highlighted in throw off the unbalanced of regional development and thus initiated spontaneous but unnecessary population flow from rural to city. The study seeks to make traditional villages around city even more attractive to people in the city.

Space

There are 215 million people in Beijing of china and the population density is 1311 people per square kilometer. The City Disease problem is shown in unordered development of city space、heavy traffic jam、serious environmental pollution in air、water and soil. On the contrary, Heibei Province is average of 355 people per square kilometer. Villages are empty and ruined, adults either man or woman, although they are parents, prefer to look for opportunity to work to Beijing or Tianjin. So, the government has focused more emphasis on peasants、towns or urban-rural integration. Associated with which there are some policies have been issued in recent three years[123].

With the traditional villages were dying off at the speed of 100 per day, the ministry of construction together with the ministry of culture and the ministry of finance published the Chinese Traditional Villages Protection List to save the precious culture heritage. Based on the protection list, traditional village can be subdivided into five areas and one of them is Jingjinji area. The existing traditional

villages in Jingjinji have the characteristics of north china village features and now most of them have to face the outstanding problems with the acceleration of urbanization.

We know Beijing, Tianjin and Hebei province, or Jingjinji for short, closed associated with each other due primarily to the historical and geographical reasons. During the past decades, Jingjinji played an important role in urban and rural development of china, but at the same time suffered seriously environmental pollutions, imbalance of regional development and thus initiated spontaneous but unnecessary population flow from rural to city. The traditional villages around city are empty and ruined and even the unplanned regeneration makes the attraction of villages gone.

This paper aims to explore how to reserve both the physical and mental heritage of the traditional village and identify what makes one rural more attractive and more livable. The paper addressed three main questions :(1)What relationships between nationality, blood and social structure evolve in the formation of the village?(2)How has the cultural theories been used to siting and generating villages and what effect? (3)How could these factors be improved in the context of natural environment imperatively to create more livable villages? It builds on one series of policies The National New Pattern Urbanization Planning (2014-2020), Beijing-tianjin-hebei cooperation development planning (2015), The Chinese traditional village in 20th century, which issued by government and expanded three primary studies undertaken separately by the authors(Binbin Hu,2015[4]; Deyin Luo,2014[5]; Nanxi Wang,2014[6]) who using comparative research approaches to build traditional villages pedigree and urgently call for protecting village by legislation.

Existing problems

China is on the knife-edge of Urbanization which faced on contradiction problems that must be solved below.

(1)A large number of rural immigrations found it is hard to blend into urban society which results in low level in urbanization. Meanwhile, the problems of left-behind children、women and elderly underlined the risks and hidden trouble in economic and social developments followed by the immigration of man who work from rural to city.

(2)The phenomenon of land urbanization is rather faster than population urbanization which results in low density of population in built-up areas. On the contrary, some cities pursue to take too much space than people's actual need as the unused space just like large squares or new industrial zones usually occupied oversized space which could be put to better use.

(3)China has done a little badly in protecting historical and cultural heritage. In the past, the government didn't recognize that it is disadvantage to build one city to follow the same pattern with others.

All the existing problems mentioned above can be achieved by analyzing the physical layout of rural areas, primarily focus on how land use varies throughout the rural and what affects the forming of features and attraction of the rural?

Research goal

The aim is to reduce the motivation meaningless within people to balance the urban and rural development. We should take effective means successfully by providing chances for employment to farmers except only for farming so as to guarantee the sustainability of rural development. Before, we put eyes on the city, now we need turn focus on village. If we find out the uses to govern the "Urban Disease" more reasons why people leave their homes and attract them back homes, then the problems will be solved.

This paper is structured as follows. First, there is a review literature on researching points in nearly 100 years. Second, the paper examines the extent of how natural environment, cultural characteristics and social customs act on the formation of space, including the mechanism that lies behind space form of villages. Finally, it compares how Lingshui village of Mentougou district is more livable and more attractive in Beijing.

Reviews

Questions about the traditional villages rebuilding and protection are not particularly new. There is a lengthy body of theoretical and empirical research examining connections between blood、nationality 、social structure and life style, much of which has originated from the 1920's.(e.g. Xiaotong Fei 1996;Yaohua Lin 2000) These works generally research based on a case study of Kaixuangong Village in Jiangsu province and of Yixu family village in Fujian province which manifested that social function、 lineage and family are the ethical functions in maintaining villages. And these reflected as a form of "the etiquette order" and "the elder rule" in the daily lives of villagers. The research in the second stage originated in 1980's, which tends to put focus on the connections between village social system, ideology and village form rather than on the regional community. This match brings a balance to the relationships between regional politics, law, folk and village life. (e.g. Zongzhi Huang 1992). Research in the third stage started at the beginning of 21 century with the rural change became the hot topic in china. As the leaders, Jicai Feng and Binbin Hu promoted that it is necessary to take the two key relationships between traditional and modern, protection and update into account in the way of researching village. They strongly advocated protecting traditional village involved in village spatial distribution lineage, landscape, policy, legislation and the other detailed fields, in which legislation and policy can play an important role.

The research on Jingjinji traditional villages expands to the comparing spacial form of villages of Hebei province (Jianqiang Wang, 2015), which promotes planning strategies included village protection planning and land layout planning and then summarizes an universal designing strategy and special designing strategy based on object differences taking the South Wang village of Ci county for example. Through the comparing Liang village of Shanxi province with Yingtan village of Hebei province (Jiezhang, Songnan Wu 2010), the authors put forward quantitative research methods which can be used to control the relative factors cover siting, axis, scale and horizon.

The formation of space and natural environment

There are getting nearly 90% mountains in the rural of Jingjinji area with many rivers and lush vegetation. So the villages present a linear layout along the mountains, rivers or vegetation. The famous West-Beijing Ancient Road is linked many villages, by which there formed closely economic exchanges between villages in the past.

(1) The climate characteristics:

Jingjinji was located in the north of china with a warm temperate continental monsoon climate, characterized by significant winds, four seasons.

(2) Mountain-water topography:

Take the Mentougou district as an example; there are getting nearly 98.4% mountains with the high terrain of northwest, southeast low. Yongding River is one of the Mother Rivers where ancient mankind culture once originated.

(3) Natural resource and Architectural material:
In order to save the resources, the most special point is to get materials on the spot from which get local rock、woods and limestone, and match their surroundings so well they seem to have grown up organically from the soil. During the process of building, the village tells us that materials have infinite possibilities; these possibilities manifest themselves in changing shapes by deforming or processing. There are abundant natural resources involving in construction, as described next.
First, the most common material is wood in rural area of Jingjinji, in which pine、cedar are used to building their houses not only for local peasants but also for city people. In generally, mulberry will not be used to construct the house because of the pronunciation of taboo in china. That is to say, mulberry in Chinese sound “sang” which is the same sound with the “sang” that means someone is dead in Chinese culture. At the same time, willow is often used to construct buildings with lower grades also.
Secondly, people say Jingjinji is an area that full of black and white while black is coal and white is lime. The coal mining in Jingjinji has started since liao and jin dynasty, at the same time the production of coal supplied the whole capital during the ming and qing dynasty. Lime, can also be called bluestone, which made up primarily of calcium carbonate. Lime is common building materials in the ancient which has two colors, one is blue that made from natural and the other is white that made on fire.

The formation of space and cultural characteristics

The concentration and dispersion of the population are the intrinsic motivation in the rising and falling, developing and changing of one village. The concentration of population is mainly because of the characteristics of homogeneous existing in population. This phenomenon often occurs in where the village is produced by the concentration of people who owned the same blood and the same value. And just due to the concentration, some special regional culture within the regions come into being which becomes an inevitable result that regional culture can influence the physical space form.
With the change of the times, many resident live in the buildings which inherited from their ancestors, they are closely linked with the building、soil and village and even strongly interlinked with identity of themselves.
In general, the emotion、knowledge、technology and the building capacity in responsing the land and climate effectively to obtain resource are passing down from generation to generation. Housing is built on embodying the value and pursuit with its integrity and reliability. The culture and material of mountain villages in western Beijing were just passing down from generation to generation to maintain a harmonious and order landscape.
That is to say, humans are gregarious lot from which social structure came into being. Social structure is formed based on family and ethic relationships which is the fundamental feature of traditional farming community in china. It contains family structure、blood relation and social class. And the thought of reproduction is the most simple and basic concept in Chinese traditional thoughts which at the same time makes the communities remain stable and lack of change.
We know, the northern dwelling especially the quadrangle dwellings is the typical building system in china. The quadrangle dwellings originated from the Western Zhou Dynasty, which had a rudiment in Yuan Dynasty and became mature gradually in Ming and Qing Dynasty. As an external manifestation in culture, it does not only have strong regional building feature, but also reflect some relationships between living habits, culture feature and the difference between south and north. This now becomes

an important research for how to analyze the culture inside the traditional northern dwellings and protect their features commpletely.

The three reasons are the main power to drive the evolution of traditional dwellings which manifest in changing of requirement and driving of culture. This paper explores the reasons from space、ecology and ethic below Just as Lingshui village for example.

(1)Space

The space form is court yard which is surrounded by four directions dwellings called Quadrangle dwellings. The convergence of Chinese simple introversion idea and private thoughts gives us a space that is closed to outside and open to inside. This kind of space is taken shape in Yuan dynasty because of the lifestyle in Yuan dynasty changed from “migration” to “settlement”. There are 5 counts for the lingshui village which is really rare in mountains (Fig.1).

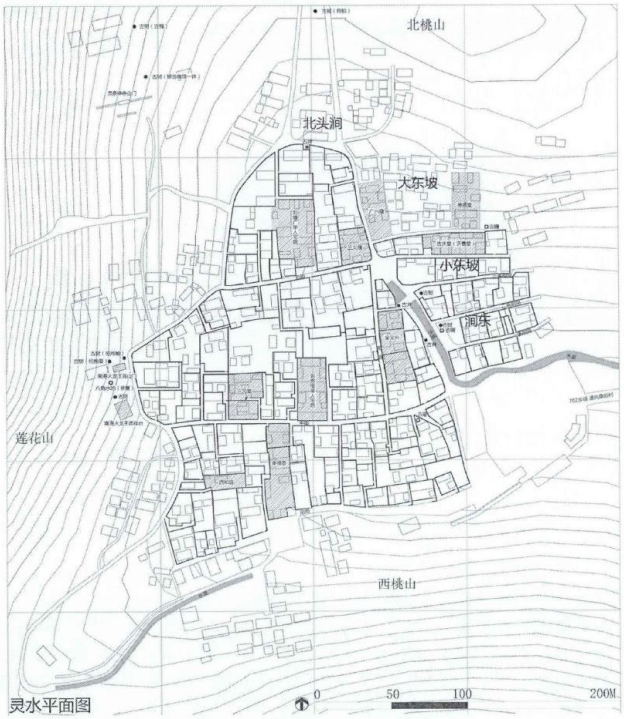

Fig. 1. Layout plan of Lingshui village

(2)Ecology

In order to provide shelter against the wind and rain at the beginning of construction, people are launching an appeal to make their dwellings match the natural environment. This ecological opinion has played a very important role in the space evolution of quadrangle dwellings. For example, in Beijing it is very dry in summer and is windy and dusty in spring and autumn. The winter prevail northwest wind. So as to avoid the blow of northwest wind, the typical quadrangle dwellings have windows and doors facing the south of the main house and no windows and doors in the north wall. The main house is higher than other wing-rooms in order to enjoy the sunshine of winter and southeast wind of summer. In order to separate the indoors and outdoors and get shelter from the wind and snow, the corridor is set up outside the wing-room.

For the sake of saving the resource and improve construction efficiency, the most direct and effective way is to get materials such as local rock、local woods and limestone on the spot eventually as to match their surroundings well just make them look like growing up organically from the soil. The

most common material is wood in rural area of Jingjinji, in which pine and cedar are used to building their houses not only for local peasants but also for city people.

(3)Ethic
Traditional dwellings keep the essence of Chinese traditional culture, especially the imperial power effect at building quadrangle dwellings. It embodies in grade recognition and central axis idea; the geometric law and ecological rule and so on. They are the Confucianism culture supplements.
The picture shows the measurement plan of Liu maoheng Juren house of Lingshui village. From the picture, we can see “central axis” and “central emphasis “are basic principles of the layout. The center of the main house is family temple, and the left and right rooms of that temple are rooms for the elders. The wing-rooms are for the youngers, in which the east of wing-room is for the eldest son and the west is for the second son. The last row house is for daughters or servant girls. The first row of house lies opposite to the main houses, in the center of where is the room for reception guests. Private school is in the east of reception room, while servant boy’s room is in the west. The far west room is toilet (Fig.2).

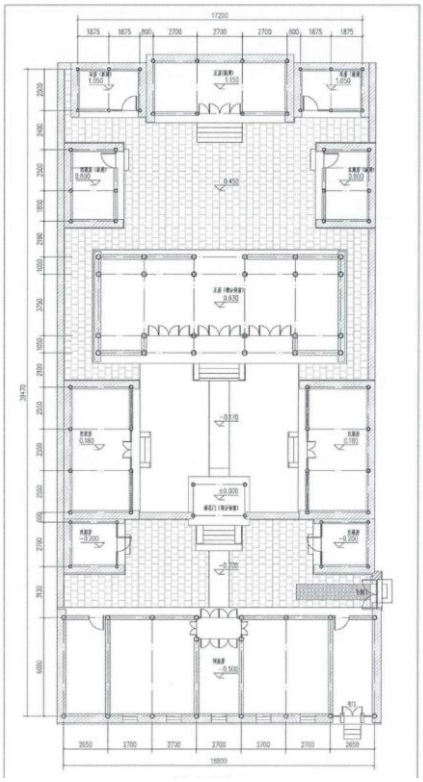

Fig. 2. Juren house of Lingshui village

Strategies

In all, in order to protect production and lifestyle so as to keep the static and dynamic vitality of villages, we should launch an appear to develop tourist industry or new industry especially must be in line with local characteristics and market preference in rural area.
Secondly, it should be done equal to city and rural to take two-way movement in urbanization, which means that urbanization need to take some measures to promote Urban-Rural Integration.

Thirdly, to achieve the sustainable development goal, we need to obey the planning strictly to advance greatly in planning and construction scientifically.
Finally, we need put forward protection strategy on account of consolidate the agricultural basis. The government realized the premise of urbanization is the development of agriculture after experiencing the movement of enclosure in primary stage of urbanization, when exploited earth of the peasant, destroyed production capability and even compounded the social contradictions.

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